

Supreme Court, U. S.

FILED

JAN 28 1977

MICHAEL RUDAK, JR., CLERK

**A P P E N D I X**

**VOLUME III**

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**SUPREME COURT OF THE UNITED STATES**

**OCTOBER TERM, 1976**

**NO. 76-60**

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**DOLPH BRISCOE, GOVERNOR OF THE STATE  
OF TEXAS AND MARK WHITE, SECRETARY  
OF THE STATE OF TEXAS,**

**Petitioners**

**V.**

**EDWARD H. LEVI, ATTORNEY GENERAL  
OF THE UNITED STATES, ET AL.,**

**Respondents**

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**On Writ of Certiorari From The United States  
District Court For The District Of Columbia**

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**PETITION FOR WRIT OF CERTIORARI FILED  
JULY 16, 1976**

**CERTIORARI GRANTED DECEMBER 6, 1976**

**VOLUME III**

**CERTIFICATE OF COURT REPORTER**

I, Ida Z. Watson, certify that I reported the proceedings in the above-entitled cause on September 12, 1975 and that the foregoing Pages 1 to 13, inclusive, constitute the official transcript of the Court's Ruling.

By S/S \_\_\_\_\_

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

HON. DOLPH BRISCOE, )  
Governor of the State of Texas, )  
ET AL., )

Plaintiffs, )

v. )

HON. EDWARD H. LEVI, )  
Attorney General of the United )  
States, ET AL., )

Defendants. )

Civil Action  
No. 75-1464

**O R D E R**

This matter having come before the Court for hearing on plaintiffs' request for a temporary restraining order and defendants' motion to dismiss on September 12, 1975, and it appearing to the Court and counsel that the matter could be treated as a motion for summary judgment under Rule 12 of the Federal Rules of Civil Procedure, and an application for preliminary or final injunctive relief, now therefore it is

ORDERED that for the reasons stated in open



court on September 12, 1975, after reviewing the papers and hearing oral argument and testimony, summary judgment is granted for defendants and plaintiff's application for injunctive relief is denied and the complaint dismissed.

By S/S

UNITED STATES  
DISTRICT JUDGE

September 16, 1975

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

Hon. DOLPH BRISCOE, Governor of the State of Texas, <i>et al.</i> ,	)	
	)	
Plaintiffs	)	
V.	)	Civil Action
	)	No. 75-1464
Hon. EDWARD H. LEVI, Attorney General of the United States, <i>et al.</i> ,	)	
	)	
Defendants	)	

NOTICE OF APPEAL

Notice is hereby given that Plaintiffs, Hon. Dolph Briscoe, Governor of the State of Texas, and Mark White, Secretary of State of the State of Texas, hereby appeal to the United States Court of Appeals for the District of Columbia Circuit from the final Order and Judgment entered in this action on September 16, 1975.

JOHN L. HILL  
ATTORNEY GENERAL  
Of Texas

By S/S

LONNY F. ZWIENER  
Assistant Attorney General  
of Texas

ATTORNEYS FOR  
PLAINTIFFS, P.O. Box 12548,  
Capitol Station  
Austin, Texas 78711

CERTIFICATE OF SERVICE

I, Lonny F. Zwiener, Assistant Attorney General of Texas, Attorney for Plaintiffs, certify that a copy of the foregoing Notice of Appeal has been served on the Defendants by placing same in the United States Mail, certified, postage prepaid, addressed to the Attorney for Defendants, Mr. Brian K. Landsberg, Attorney, Department of Justice, Washington, D.C. 20500, on this \_\_\_\_ day of September, 1975.

By S/S

LONNY F. ZWIENER  
Assistant Attorney General  
of Texas



**THE FOLLOWING PAPERS AND EXHIBITS  
WERE REPRODUCED IN THE SUPPLEMEN-  
TAL APPENDIX TO THE BRIEFS FILED IN  
THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA.**

**AFFIDAVIT**

**STATE OF MARYLAND**

**PRINCE GEORGE'S COUNTY**

Meyer Zitter, being duly sworn upon oath, says:

I, Meyer Zitter, am Chief of the Population Division of the U.S. Bureau of the Census. The Population Division is responsible for the development and publication of social and demographic information needed for the formulation of public policy, for other official governmental action, and for general public needs.

I have served as Chief of the Population Division for approximately three years. Prior to this appointment I served in various capacities in the Population Division for 27 years, except for three years in the Housing Division. My field of concentration during these years has been in the area of population estimates and projections, and demographic analysis.

On August 6, 1975, the U.S. Congress passed Amendments to the 1965 Voting Rights Act, which required the U.S. Census Bureau to make certain determinations, including those political jurisdictions in which less than 50% of the citizens of voting age population voted in the November 1972 Presidential election.

The purpose of this affidavit is to provide a brief explanation of how those determinations were routinely made, with emphasis on how they were specifically made for the State of Texas.

# **Description of the Sources of Data and Computational Steps Used in Determinations under the Voting Rights Act.**

1. The fundamental method used by the Census Bureau in arriving at its determinations of political jurisdictions in which less than 50% of the citizens of voting age population voted in the November 1972 Presidential election involves (a) updating the April 1, 1970, 18 years of age and over population figures to November 1, 1972, (b) subtracting the number of aliens of voting age, and (c) dividing the result by the total number of votes cast in the jurisdiction in the November 1972 presidential election. This computation provides the estimated percentage of "citizens of voting age who voted" and is the basis of our determination as to whether less than 50% voted. The votes cast figures used are the official tabulations provided by the state governments.

2. Using the above-described formula, the Census Bureau has determined that less than 50% of the citizens of voting age in Texas voted in the November 1972 Presidential election. The figures used in the computation were as follows:

STATE OF TEXAS:	Estimates
Voting Age Population as of 11/1/72	--- 7,655,000
Aliens of Voting Age as of 11/1/72	--- 140,657
Citizens of Voting Age as of 11/1/72	--- 7,514,343
Votes Cast as of 11/72	--- 3,472,714
Percent Citizens of Voting Age Voting	--- 46.2%

3. The sources of the data used in the above computations are set forth below:

a. The April 1, 1970, population figures are derived by tabulation of data contained in the U.S. Census

Questionnaire (Exhibit 1). Questions 5-7 are 100 percent items which record the age of every person in the household.

b. Estimates for November 1, 1972, population are made by interpolating between estimates for July 1, 1972 and July 1, 1973. The latter estimates are derived by averaging the results of two statistical methods which use current data to estimate change in the total population since April 1970. These methods are explained in detail on pages 7-17 of the Census Bureau's Current Population Reports, "Population Estimates and Projections," Series P-25, No. 520, July 1974 (Exhibit 2).

The Texas estimates were based on interpolation of July 1, 1972 and July 1, 1973 population estimates set forth in Table 3 or Exhibit 2.

Estimates of the November 1, 1972, population under 18 years of age for Texas are computed in a manner consistent with the estimate of total population and then subtracted from the total population estimates to obtain the voting age population estimates.

c. For the present purpose, the alien population was derived for the 1970 census by combining the results of responses to Questions 13a and 16a in the 5 percent sample forms of the April 1970 Census questionnaire (see Exhibit 1).

In response to Congressional interagency the availability of "citizens of voting age" data for Voting Rights Act Amendment purposes, members of my staff prepared three letters to Congressman Herman Badillo (May 21, 1975), Congressman Stephen J. Solarz (May 23, 1975) and Senator John V. Tunney (June 12, 1974), regarding the alien population issues. These letters are attached as Exhibits 3,4, and 5, respectively.



d. The official number of votes cast in each county and the State of Texas was provided by the State of Texas.

4. The figure, "citizens of voting age population," is derived by subtracting the aliens of voting age from the total persons of voting age. In the Census, persons are enumerated at their "usual residence," i.e., the place in which they generally eat, sleep and work, with persons who are temporarily absent for days or weeks from such usual place of abode being counted as residents of their usual place of abode. The "citizens of voting age" category include college students, persons serving in the armed forces in the relevant jurisdiction, lunatics, or convicted felons. Our determinations are based on a count of all citizens without regard to possible voter disqualification factors.

#### **Communications between the Census Bureau and the State of Texas**

1. I have read the correspondence between Mr. Vincent Barabba, Director of the U.S. Bureau of the Census, and Mr. Mark White, Secretary of the State of Texas, which is attached to Mr. White's affidavit of September 8, 1975, submitted to this court, and confirm their authenticity.

2. Pursuant to instructions from the U.S. Department of Justice (See Exhibit F of Mr. Mark White's affidavit of September 8, 1975) the Population Division of the Census Bureau began to make its initial determinations of jurisdictions covered under the 1975 Amendments to the Voting Rights Act. After these initial determinations were made, the Director of the Census Bureau notified the various jurisdictions, including the State of Texas, of the results by telegram of August 27, 1975. (See Exhibit D of Mr. Mark White's

affidavit of September 8, 1975.) In addition, on September 4, 1975, the Census Bureau issued a press release listing the 5 states, 224 counties and one city which appear to fall under coverage of one or more of the 1975 Amendments. (Exhibit 6).

A final determination as to coverage of the State of Texas under Title II of the 1975 Amendments has not yet been published in the Federal Register.

3. I was present at the September 5, 1975, meeting arranged by Director Barabba, at the request of Mr. White, to provide Mr. White with the opportunity to submit additional information he believed pertinent to our determination and to see if he had any facts which would suggest that our initial determination, regarding coverage of the State of Texas under Title II of the 1975 Amendments to the Voting Rights Act, was incorrect.

Other participants at that meeting were staff members from the Census Bureau and the U.S. Department of Justice.

During the meeting, I explained the methodology reviewed above in this affidavit and the basis for our initial determination that less than 50 percent of citizens of voting age had voted in the 1972 Presidential election in the State of Texas. Mr. White presented no facts which would change our initial determination as to Texas.

By S/S  
MEYER ZITTER

STATE OF MARYLAND

PRINCE GEORGE COUNTY.

I, Irene C. Stewart, a Notary Public, do hereby certify



that on this 11th day of September 1975, personally appeared before me Meyer Zitter, who duly sworn, declared that he is Chief of the Population Division of the U.S. Census Bureau, that he signed the foregoing document in the capacity therein set forth, and that the statements therein contained are true and correct.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year before written.

By S/S

Notary Public in and for  
Prince George's County,  
State of Maryland

My commission expires:

**EXHIBITS ATTACHED TO AFFIDAVIT OF  
MEYER ZITTER**



Page 1

EXHIBIT 1

# UNITED STATES CENSUS

This is your Official Census Form  
Please fill it out and mail it back  
on Census Day, Wednesday,  
April 1, 1970

1.	2.	3.	4.	5.
COPY				
If the address shown above has the wrong apartment identification, please write the correct apartment number or location here:				

## How To Fill This Form

### 1. Use a black pencil to answer the questions.

This form is read by an electronic computer. Black pencil is better to use than ballpoint or other pens.

#### Fill circles "O" like this: ●

The electronic computer reads every circle you fill. If you fill the wrong circle, erase the mark completely, then fill the right circle.

When you write an answer, print and write clearly.

### 2. See the filled-in example on the yellow instruction sheet.

This example shows how to fill circles and write in answers. If you are not sure of an answer, give the best answer you can.

If you have a problem, look in the instruction sheet.

Instructions are numbered the same as the questions on the Census form.

If you need more help, call the Census office.

You can get the number of the local office from telephone "Information" or "Directory assistance."

### 3. Your answers are CONFIDENTIAL. The law (Title 13, United States Code) requires that you answer the questions to the best of your knowledge.

Your answers will be used only for statistical purposes and cannot, by law, be disclosed to any person outside the Census Bureau for any reason whatsoever.

The householder should make sure that the information is shown for everyone here.

If a boarder or roomer or anyone else prefers not to give the householder all his information to enter on the form, the householder should give at least his name, relationship, and sex in questions 1 to 3, then mail back the form. A Census Taker will call to get the rest of the information directly from the person.

### 4. Check your answers. Then, mail back this form on Wednesday, April 1, or as soon afterward as you can. Use the enclosed envelope; no stamp is needed.

Your cooperation in carefully filling out the form and mailing it back will help make the census successful. It will save the government the expense of calling on you for the information.

PLEASE CONTINUE

### 5. Answer the questions in this order:

Questions on page 2 about the people in your household.

Questions on page 3 about your house or apartment.

### 6. In Question 1 on page 2, please list each person who was living here on Wednesday, April 1, 1970, or who was staying or visiting here and had no other home.

## EXPLANATORY NOTES

This leaflet shows the content of the 1970 census questionnaires. The content was determined after review of the 1960 census experience, extensive consultation with many government and private users of census data, and a series of experimental censuses in which various alternatives were tested.

Three questionnaires are being used in the census and each household has an equal chance of answering a particular form.

80 percent of the households answer a form containing only the questions on pages 2 and 3 of this leaflet.

15 percent and 5 percent of the households answer forms which also contain the specified questions on the remaining pages of this leaflet. The 15-percent form does not show the 5-percent questions, and the 5-percent form does not show the 15-percent questions. On both forms, population questions 13 to 41 are repeated for each person in the household but questions 24 to 41 do not apply to children under 14 years of age.

The same sets of questions are used throughout the country, regardless of whether the census in a particular area is conducted by mail or house-to-house canvass. An illustrative example is enclosed with each questionnaire to help the householder complete the form.

80, 15, and 5 percent (100 percent)

Page 2

DO NOT WRITE THIS COLUMN

1. WHAT IS THE NAME OF EACH PERSON who was living here on Wednesday, April 1, 1970 or who was staying or visiting here and had no other home?

Head of the household  
Wife of head  
Unmarried children, oldest first  
Married children and their families  
Other relatives of the head  
Persons not related to the head

2. HOW IS EACH PERSON RELATED TO THE HEAD OF THIS HOUSEHOLD?

Fill in circle.

If "Other relative of head," fill in exact relationship, for example, mother-in-law, brother, niece, grandson, etc.

If "Other not related to head," fill in exact relationship, for example, partner, maid, etc.

Head of household  
Wife of head  
Son or daughter of head  
Other relative of head—Fill in exact relationship

Roomer, boarder, lodger  
Partner or spouse  
Other not related to head—Fill in exact relationship

1 Last name First name Middle initial

2 Last name First name Middle initial

3 Last name First name Middle initial

4 Last name First name Middle initial

5 Last name First name Middle initial

6 Last name First name Middle initial

7 Last name First name Middle initial

8 Last name First name Middle initial

9. If you used all 8 lines—Are there any other persons in this household? Yes No

Do not list the others; we will call to get the information.

10. Did you have anyone out of Question 1 because you were not sure if he should be listed—for example, a new baby still in the hospital, or a lodger who also has another home? Yes No

On back page, give name(s) and reason left out.

80, 15, and 5 percent (100 percent)

1. SEX

2. COLOR OR RACE

3. DATE OF BIRTH

4. WHAT IS EACH PERSON'S MARITAL STATUS?

Fill in circle.

If "Indian (American)," fill in circle.

If "Other," fill in race.

5. Month and year of birth and age last birthday

6. Month of birth

7. Year of birth

8. What is each person's marital status?

Fill in circle.

Male  
Female

White  
Negro or Black  
Indian (Amer.)  
Other—Fill in race

Month  
Year  
Age

Jan-Mar  
Apr-June  
July-Sept.  
Oct-Dec.

186  
187  
188  
189  
190  
191

192  
193  
194  
195  
196  
197

0  
1  
2  
3  
4  
5

6  
7  
8  
9

New married  
Widowed  
Divorced  
Separated  
Never married

11. Did you list anyone in Question 1 who is away from home now—for example, on a vacation or in a hospital? Yes No

On back page, give name(s) and reason person is away.

12. Did anyone stay here on Tuesday, March 31, who is not already listed? Yes No

On back page, give name of each visitor for whom there is no one at his home address to report him to a census taker.



Please answer questions 10, 11, and 12 at the bottom of page 1.

80, 15, and 5 percent (100 percent)

Page 3

**10. How many living quarters, occupied and vacant, are at this address?**

One ☐ 2 apartments or living quarters ☐ 3 apartments or living quarters ☐ 4 apartments or living quarters ☐ 5 apartments or living quarters ☐ 6 apartments or living quarters ☐ 7 apartments or living quarters ☐ 8 apartments or living quarters ☐ 9 apartments or living quarters ☐ 10 or more apartments or living quarters ☐ This is a mobile home or trailer ☐

**Answer these questions for your living quarters:**

**11. Is there a telephone on which people in your living quarters can be called?**

Yes ☐ No ☐ If yes, what is the number?  Please number

**12. Do you enter your living quarters—**

Directly from the outside or through a common or public hall? ☐ Through someone else's living quarters? ☐

**13. Do you have complete kitchen facilities?**

Complete kitchen facilities are a sink with piped water, a range or cook stove, and a refrigerator.

Yes, for this household only ☐ Yes, but also used by another household ☐ No complete kitchen facilities for this household ☐

**14. How many rooms do you have in your living quarters?**

Do not count bedrooms, porches, bathrooms, foyers, halls, or half-rooms:

1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐ 7 rooms ☐ 8 rooms ☐ 9 rooms or more ☐

**15. Is there hot (and/or cold) piped water in this building?**

Yes, hot and cold piped water in this building ☐ No, only cold piped water in this building ☐ No piped water in this building ☐

**16. Do you have a flush toilet?**

Yes, for this household only ☐ Yes, but also used by another household ☐ No flush toilet ☐

**17. Do you have a bathtub or shower?**

Yes, for this household only ☐ Yes, but also used by another household ☐ No bathtub or shower ☐

**18. Is there a basement in this building?**

Yes ☐ No, built on a concrete slab ☐ No, built in another way (includes mobile homes and trailers) ☐

**19. Are your living quarters—**

Owned or being bought by you or by someone else in this household? Do not include cooperative and condominiums here ☐ A cooperative or condominium which is owned or being bought by you or by someone else in this household? ☐ Rented for cash rent? ☐ Occupied without payment of cash rent? ☐

**20. Is this building a one-family house?**

Yes, a one-family house ☐ No, a building for 2 or more families or a mobile home or trailer ☐

**21. If "Yes"—is this house on a piece of 10 acres or more, or is any part of this property used as a commercial establishment or medical office?**

Yes, 10 acres or more ☐ Yes, commercial establishment or medical office ☐ No, none of the above ☐

**22. If you live in a one-family house which you own or are buying—**

What is the value of this property, that is, how much do you think this property (house and lot) would sell for if it were for sale?

Less than \$5,000 ☐ \$5,000 to \$7,499 ☐ \$7,500 to \$9,999 ☐ \$10,000 to \$12,499 ☐ \$12,500 to \$14,999 ☐ \$15,000 to \$17,499 ☐ \$17,500 to \$19,999 ☐ \$20,000 to \$24,999 ☐ \$25,000 to \$34,999 ☐ \$35,000 to \$49,999 ☐ \$50,000 or more ☐

If the house is on a piece of 10 acres or more, or if any part of the property is used as a commercial establishment or medical office, do not answer this question.

**23. Answer this question if you pay rent for your living quarters.**

a. If rent is paid by the month—

What is the monthly rent?

If you answer here  \$ (Nearest dollar)

Fill out circle

Less than \$30 ☐ \$30 to \$39 ☐ \$40 to \$49 ☐ \$50 to \$59 ☐ \$60 to \$69 ☐ \$70 to \$79 ☐ \$80 to \$89 ☐ \$90 to \$99 ☐ \$100 to \$119 ☐ \$120 to \$149 ☐ \$150 to \$199 ☐ \$200 to \$249 ☐ \$250 to \$299 ☐ \$300 or more ☐

b. If rent is not paid by the month—

What is the rent, and what period of time does it cover?

\$  (Nearest dollar) per  (Week, half-month, year, etc.)

**FOR CENSUS ENUMERATOR'S USE ONLY**

Block number  Serial number

Occupied ☐ Vacant ☐

First form ☐ Continuation ☐

Regular ☐ Usual residence elsewhere ☐

Group quarters ☐

For a vacant unit, also fill C, D, A, H2 to H5, and H10 to H12

Vacancy status ☐ Tenure ☐

For rent ☐ For sale only ☐ Rented or sold, not occupied ☐ Held for occasional use ☐ Other vacant ☐

Monthly report ☐

Less than 1 month ☐ 1 up to 2 months ☐ 2 up to 6 months ☐ 6 up to 12 months ☐ 1 year up to 2 years ☐ 2 years or more ☐

C/D ☐

The following questions are to be answered only by the person who owns the property. The person who owns the property is the person who has the title to the property.

Page 4

**24. Answer question H11 if you pay rent for your living quarters.**

In addition to the rent entered in H12, do you also pay for—

a. Electricity? Yes, average monthly cost is \$  No, included in rent ☐ No electricity not used ☐

b. Gas? Yes, average monthly cost is \$  No, included in rent ☐ No gas not used ☐

c. Water? Yes, yearly cost is \$  No, included in rent or no charge ☐ Yearly cost

d. Oil, coal, kerosene, wood, etc.? Yes, yearly cost is \$  No, included in rent ☐ Yearly cost  No, these fuels not used ☐

**25. How many bathrooms do you have?**

A complete bathroom is a room with flush toilet, bathtub or shower, and sink with piped water.

A half bathroom has at least a flush toilet or bathtub or shower, but does not have all the facilities for a complete bathroom.

No bathroom, or only a half bathroom ☐ 1 complete bathroom ☐ 1 complete bathroom, plus half bathroom(s) ☐ 2 complete bathrooms ☐ 2 complete bathrooms, plus half bathroom(s) ☐ 3 or more complete bathrooms ☐

**26. Do you have air-conditioning?**

Yes, 1 individual room unit ☐ Yes, 2 or more individual room units ☐ Yes, a central air-conditioning system ☐ No ☐

**27. How many passenger automobiles are owned or regularly used by members of your household?**

Count company cars kept at home.

None ☐ 1 automobile ☐ 2 automobiles ☐ 3 automobiles or more ☐

**28. About when was this building originally built? Mark when the building was first constructed, not when it was remodelled, added to, or converted.**

1909 or 1910 ☐ 1911 to 1919 ☐ 1920 to 1929 ☐ 1930 to 1939 ☐ 1940 to 1949 ☐ 1950 to 1959 ☐ 1960 or later ☐

**29. Which best describes this building?**

Include all apartments, flats, etc., even if vacant.

A one-family house detached from any other house ☐ A one-family house attached to one or more houses ☐ A building for 2 families ☐ A building for 3 or 4 families ☐ A building for 5 to 9 families ☐ A building for 10 to 19 families ☐ A building for 20 to 49 families ☐ A building for 50 or more families ☐ A mobile home or trailer ☐ Other—

**30. Is this building—**

On a city or suburban lot?— Skip to H19 ☐ On a piece of less than 10 acres? ☐ On a piece of 10 acres or more? ☐

**31. Last year, 1969, did sales of crops, livestock, and other farm products from this place amount to—**

Less than \$50 (or None) ☐ \$50 to \$249 ☐ \$250 to \$499 ☐ \$500 to \$999 ☐ \$1,000 or more ☐

The 10-percent line contains the questions shown on page 4. The 5-percent line contains the questions shown in the first column of page 4 and the questions on page 5.

Page 1

**1024a.** How many stories (floors) are in this building?

1 to 3 stories ☐  
4 to 6 stories ☐  
7 to 12 stories ☐  
13 or more ☐

**1024b.** Is there a passenger elevator in this building?

Yes ☐ No ☐

**1025a.** Which fuel is used most for cooking?

From underground pipes serving the neighborhood ☐  
Gas ☐ Coal or coke ☐  
Bottled tank or LP ☐ Wood ☐  
Electricity ☐ Other fuel ☐  
Fuel oil, kerosene, etc. ☐ No fuel used ☐

**1025b.** Which fuel is used most for home heating?

From underground pipes serving the neighborhood ☐  
Gas ☐ Coal or coke ☐  
Bottled tank or LP ☐ Wood ☐  
Electricity ☐ Other fuel ☐  
Fuel oil, kerosene, etc. ☐ No fuel used ☐

**1025c.** Which fuel is used most for water heating?

From underground pipes serving the neighborhood ☐  
Gas ☐ Coal or coke ☐  
Bottled tank or LP ☐ Wood ☐  
Electricity ☐ Other fuel ☐  
Fuel oil, kerosene, etc. ☐ No fuel used ☐

**1026.** How many bedrooms do you have?

Count rooms used mainly for sleeping even if used also for other purposes.

No bedroom ☐ 3 bedrooms ☐  
1 bedroom ☐ 4 bedrooms ☐  
2 bedrooms ☐ 5 bedrooms or more ☐

**1027a.** Do you have a clothes washing machine?

Yes, automatic or semi-automatic ☐  
Yes, wringer or separate spinner ☐  
No ☐

**1027b.** Do you have a clothes dryer?

Yes, electrically heated ☐  
Yes, gas heated ☐  
No ☐

**1027c.** Do you have a dishwasher (built in or portable)?

Yes ☐ No ☐

**1027d.** Do you have a home food freezer (which is separate from your refrigerator)?

Yes ☐ No ☐

**1028a.** Do you have a television set? Count only sets in working order.

Yes, one set ☐  
Yes, two or more sets ☐  
No ☐

**1028b.** If "Yes"—Is any set equipped to receive UHF broadcasts? Set is channels 34 to 53?

Yes ☐ No ☐

**1029.** Do you have a battery-operated radio?

Count car radios, transistor, and other battery-operated sets in working order or needing only a new battery for operation.

Yes, one or more ☐ No ☐

**1030.** Do you (or any member of your household) own a second home or other living quarters which you occupy sometime during the year?

Yes ☐ No ☐

The 10-percent and 5-percent lines contain a full listing of questions to be included on Form 100-1. Show on each page of page 1 the 10-percent line the questions designated as 10-percent line on pages 6, 7, and 8. Show on each page of page 1 the 5-percent line the questions designated as 5-percent line on pages 6, 7, and 8.

State of person on the 1 of page 2

Last name First name Middle

**13a.** Where was this person born? If born in hospital, give State or country where mother lived. If born outside U.S., say exact location. Does distinguish Northern Ireland from Ireland (Ireland).

This State ☐  
OR  
(Name of State or foreign country, or Puerto Rico, Guam, etc.)

**13b.** Is this person's origin or descent? (Fill one circle.)

Hispanic ☐ Central or South American ☐  
Puerto Rican ☐ Other Spanish ☐  
Cuban ☐ No, none of these ☐

**14.** What country was his father born in?

United States ☐  
OR  
(Name of foreign country, or Puerto Rico, Guam, etc.)

**15.** What country was his mother born in?

United States ☐  
OR  
(Name of foreign country, or Puerto Rico, Guam, etc.)

**16.** For persons born in a foreign country—

**a.** Is this person naturalized?

Yes, naturalized ☐  
No, alien ☐  
Born abroad of American parents ☐

**b.** When did he come to the United States to stay?

1905 to 70 ☐ 1970 to 84 ☐ 1985 to 94 ☐  
1905 to 54 ☐ 1955 to 69 ☐ 1970 to 84 ☐  
1905 to 54 ☐ 1955 to 69 ☐ 1970 to 84 ☐

**17.** What language, other than English, was spoken in this person's home when he was a child? Fill one circle.

Spanish ☐ Other— ☐  
French ☐ Specify ☐  
German ☐ None, English only ☐

**18.** When did this person move into this house (or apartment)? Fill circle for date of last move.

1905 to 70 ☐ 1970 to 84 ☐ 1985 to 94 ☐  
1905 ☐ 1950 to 64 ☐ Always lived in this house or apartment ☐  
1967 ☐ 1950 to 59 ☐

**19a.** Did he live in this house on April 1, 1960? If in college or Armed Forces in April 1960, report place of residence then.

Born April 1960 or later (Skip to 20) ☐  
Yes, this house ☐  
No, different house ☐

**b.** Where did he live on April 1, 1960?

(1) State, foreign country, U.S. possession, etc. \_\_\_\_\_

(2) County \_\_\_\_\_

(3) Inside the limits of a city, town, village, etc.? ☐ Yes ☐ No ☐

(4) If "Yes," name of city, town, village, etc. \_\_\_\_\_

**20.** Since February 1, 1970, has this person attended regular school or college at any time? Count nursery school, kindergarten, and schooling which leads to an elementary school certificate, high school diploma, or college degree.

No ☐  
Yes, public ☐  
Yes, parochial ☐  
Yes, other private ☐

**21.** What is the highest grade for party of person school he has ever attended? If now attending, fill in grade he is in. Fill one circle.

Never attended school—(Skip to 22) ☐  
Nursery school ☐  
Kindergarten ☐  
Elementary through high school (Grade or year) ☐  
1 2 3 4 5 6 7 8 9 10 11 12 ☐  
College (academic year) ☐  
1 2 3 4 5 6 or more ☐

**22.** Did he finish the highest grade (or year) he attended?

Now attending this grade (or year) ☐  
Finished this grade (or year) ☐  
Did not finish this grade (or year) ☐

**23.** When was this person born?

Born before April 1960—Please go on with question 24 through 41. ☐  
Born April 1960 or later—Please enter question 24 through 41 and go to the next page for the next person. ☐

**24.** If this person has ever been married—

**a.** Has this person been married more than once?

Once ☐ More than once ☐

**b.** When did he get married? When did he get married for the first time?

Month Year Month Year ☐

**c.** If married more than once—Did the first marriage end because of the death of the husband (or wife)?

Yes ☐ No ☐

**25.** If this is a girl or a woman—How many babies has she ever had, not counting stillbirths? Do not count her stepchildren or children she has adopted.

1 2 3 4 5 6 7 8 9 10 11 12 or more ☐

**26.** If this is a man—

**a.** Has he ever served in the Army, Navy, or other Armed Forces of the United States?

Yes ☐  
No ☐

**b.** Was in service—(Fill the circle for each period of service.)

Vietnam Conflict (Since Aug. '64) ☐  
Korean War (June 1950 to Jan. 1953) ☐  
World War II (Sept. 1940 to July 1947) ☐  
World War I (April 1917 to Nov. 1918) ☐  
Any other time ☐

**27a. Has this person ever completed a vocational training program?**  
For example, in high school, as apprentice, in school of business, nursing, or trades, technical institute, or Armed Forces school.

Yes ☒ No ☐ Skip to 28

**b. What was his main field of vocational training? Fill one circle.**

Business, office work ☒  
Nursing, other health fields ☐  
Trades and crafts (mechanic, electrician, beautician, etc.) ☐  
Engineering or science technician, draftsman ☐  
Agriculture or home economics ☐  
Other field—Specify ☐

**28. Does this person have a health or physical condition which limits the kind or amount of work he can do at a job?**  
If 65 years old or over, skip to question 29.

Yes ☐ No ☒

**b. Does his health or physical condition keep him from holding any job at all?**

Yes ☐ No ☒

**c. If "Yes" in a or b—How long has he been limited in his ability to work?**

Less than 6 months ☐ 3 to 4 years ☐  
6 to 11 months ☐ 5 to 9 years ☐  
1 to 2 years ☐ 10 years or more ☐

**QUESTIONS 29 THROUGH 41 ARE FOR ALL PERSONS BORN BEFORE APRIL 1954 INCLUDING HOUSEWIVES, STUDENTS, OR DISABLED PERSONS AS WELL AS PART-TIME OR FULL-TIME WORKERS**

**29a. Did this person work at any time last week?**

Yes—Fill this circle if the person did full- or part-time work.  
(Count part-time work such as a Saturday job, delivering papers, or helping another person in a family business or farm, and active duty in the Armed Forces.)

No—Fill this circle if the person did not work or did only casual housework, school work, or volunteer work.

Skip to 30

**b. How many hours did he work last week (at all jobs)?**  
Subtract any time off and add overtime or extra hours worked.

1 to 14 hours ☐ 40 hours ☐  
15 to 29 hours ☐ 41 to 49 hours ☐  
30 to 34 hours ☐ 50 to 59 hours ☐  
35 to 39 hours ☐ 60 hours or more ☐

**c. Where did he work last week?**  
If he worked in more than one place, give where he worked most last week.  
If he mostly about in his work or if the place does not have a numbered address, see instruction sheet.

(1) Address (Number and street name) \_\_\_\_\_  
(2) Name of city, town, village, etc. \_\_\_\_\_  
(3) Inside the limits of this city, town, village, etc.? ☐ Yes ☐ No ☐  
(4) \_\_\_\_\_  
(5) State \_\_\_\_\_ (6) ZIP Code \_\_\_\_\_

**d. How did he get to work last week? Fill one circle for chief means used on the last day he worked at the address given in 29c.**

Driver, private auto ☐ Taxicab ☐  
Passenger, private auto ☐ Walked only ☐  
Bus or streetcar ☐ Worked at home ☐  
Subway or elevated ☐ Other means—Specify ☐  
Railroad ☐

After completing question 29d, skip to question 31.

**30. Does this person have a job or business from which he was temporarily absent or on layoff last week?**

Yes, on layoff ☐  
Yes, on vacation, temporary illness, labor dispute, etc. ☐  
No ☒

**31a. Has he been looking for work during the past 4 weeks?**

Yes ☐ No ☒ Skip to 32

**b. Was there any reason why he could not take a job last week?**

Yes, already has a job ☐  
Yes, because of this person's temporary illness ☐  
Yes, for other reasons (in school, etc.) ☐  
No, could have taken a job ☐

**32. When did he last work at all, even for a few days?**

In 1970 ☐ 1964 to 1967 ☐ 1959 or earlier ☐ Skip ☐  
In 1969 ☐ 1960 to 1963 ☐ Never worked ☐ 1 to 35 ☐  
In 1968 ☐

- continued -

**33-35. Current or most recent job activity**  
Describe clearly this person's chief job activity in business last week, if any. If he had more than one job, describe the one at which he worked the most hours.  
If this person had no job or business last week, give information for last job or business since 1960.

**36. Industry**  
a. For whom did he work? If now on active duty in the Armed Forces, print "AF" and skip to question 38.  
(Name of company, business, organization, or other employer) \_\_\_\_\_  
b. What kind of business or industry was this? Describe activity at location where employed. \_\_\_\_\_  
(For example, junior high school, retail department, dairy farm, TV and radio service, auto assembly plant, retail construction)

**37. In April 1968, was this person— (Fill one circle)**

a. Working at a job or business (full or part-time)? ☐ Yes ☐ No ☐  
b. In the Armed Forces? ☐ Yes ☐ No ☐  
c. Attending school? ☐ Yes ☐ No ☐

**38. If "Yes" for "Working at a job or business" in question 37—Describe this person's chief activity or business in April 1968.**

a. What kind of business or industry was this? \_\_\_\_\_  
b. What kind of work was he doing (occupation)? \_\_\_\_\_  
c. Was he—  
An employee of a private company or government agency... ☐  
Self-employed or an unpaid family worker... ☐

**39. Last year (1967), did this person work at all, even for a few days?**

Yes ☒ No ☐ Skip to 41

**a. How many weeks did he work in 1967, either full-time or part-time?**  
Count paid vacations, paid sick leave, and military service.

13 weeks or less ☐ 40 to 47 weeks ☐  
14 to 33 weeks ☐ 48 to 49 weeks ☐  
27 to 39 weeks ☐ 50 to 52 weeks ☐

**40. Earnings in 1967— Fill parts a, b, and c for everyone who worked any time in 1967 even if he had no income. (If exact amount is not known, give best estimate.)**

a. How much did this person earn in 1967 in wages, salary, commissions, bonuses, or tips from all jobs? (Before deductions for taxes, Social Security, or other taxes) \$ \_\_\_\_\_  
OR ☐ None

b. How much did he earn in 1967 from his own business, profession, or partnership? (After deducting expenses. If business has money, write "Loss" above amount.) \$ \_\_\_\_\_  
OR ☐ None

c. How much did he earn in 1967 from his own farm? (After deducting expenses. Include earnings as a tenant farmer or sharecropper. If farm has money, write "Loss" above amount.) \$ \_\_\_\_\_  
OR ☐ None

**41. Income other than earnings in 1967— Fill parts a, b, and c. (If exact amount is not known, give best estimate.)**

a. How much did this person receive in 1967 from Social Security or Railroad Retirement? \$ \_\_\_\_\_  
OR ☐ None

b. How much did he receive in 1967 from public assistance or welfare payments? Include aid for dependent children, old age assistance, general assistance, aid to the blind or really disabled. Include separate payments for hospital or other medical care. \$ \_\_\_\_\_  
OR ☐ None

c. How much did he receive in 1967 from all other sources? Include interest, dividends, retirement payments, pensions, and other regular payments. (See instruction sheet.) \$ \_\_\_\_\_  
OR ☐ None

**39. Was this person— (Fill one circle)**

Employee of private company, business, or institution, for wages, salary, or commission... ☐  
Federal government employee... ☐  
State government employee... ☐  
Local government employee (city, county, etc.)... ☐  
Self-employed in own business, profession, practice, or farm—  
Own business not incorporated... ☐  
Own business incorporated... ☐  
Working without pay in family business or farm... ☐

**42. In April 1968, what State did this person live in?**

This State ☐  
OR ☐  
(Name of State or foreign country, or Armed Forces, etc.) \_\_\_\_\_



CURRENT POPULATION REPORTS

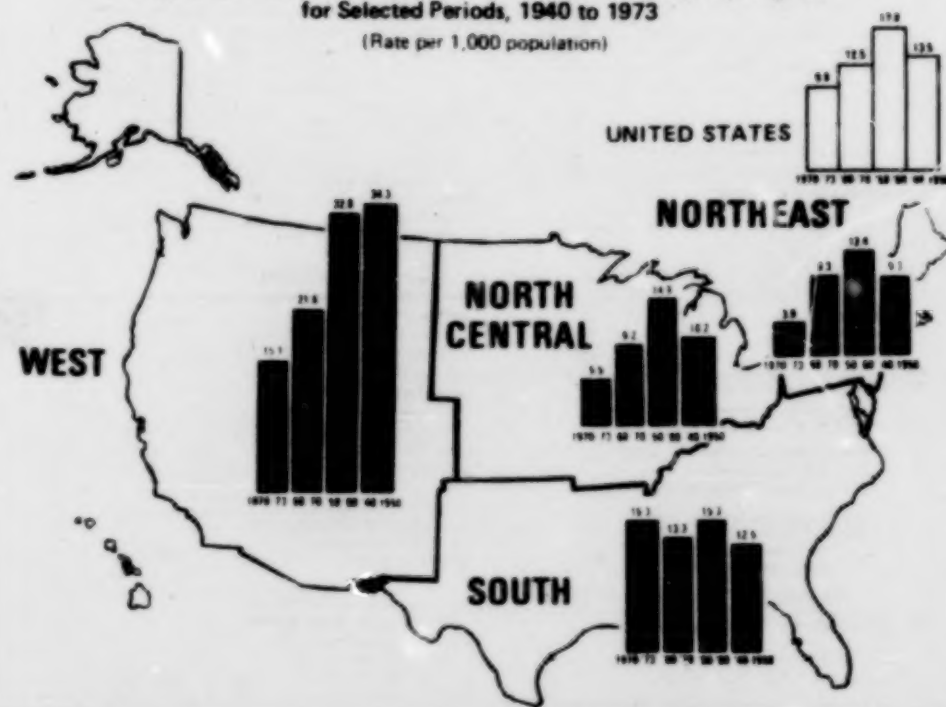
EXHIBIT 2

# Population Estimates and Projections

Series P-20 No. 520  
Issued July, 1974

## ESTIMATES OF THE POPULATION OF STATES WITH COMPONENTS OF CHANGE, 1970 TO 1973

Figure 1. Average Annual Rates of Population Growth by Regions  
for Selected Periods, 1940 to 1973  
(Rate per 1,000 population)



U. S. DEPARTMENT OF COMMERCE  
Social and Economic Statistics Administration  
BUREAU OF THE CENSUS



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# CONTENTS

	Page
Introduction .....	1
General growth trends .....	1
Methodology .....	7
Limitations of the estimates .....	14
Sources of data .....	17
Related reports .....	18
Rounding of estimates .....	18

## TEXT TABLES

Table		
A.	Comparison of population change by components: Florida vs. California, 1940 to 1973.	2
B.	Comparison of population change by components for 13 northern industrial States: 1970 to 1973.	3
C.	Comparison of population change by components for 13 northern industrial States: 1940 to 1973.	5
D.	Comparison of population change by components for 10 non-southern rural States: 1940 to 1973.	6
E.	Comparison of population change by components for 11 southern rural States, 1940 to 1973.	6
F.	Area coverage ratios of symptomatic variables for selected years, by regions	12
G.	Percent deviation of postcensal population estimates from census counts, by method, for States: 1970 and 1960	16

## CHARTS

Figure		
1.	Average annual rates of population growth by regions for selected periods, 1940 to 1973	Cover
2.	Average annual rates of population change: 1970 to 1973.	4
3.	Average annual rates of population change: 1960 to 1970.	5

## DETAILED TABLES

Table		
1.	Provisional estimates of the resident population of States, July 1, 1973, and components of population change since April 1, 1970	19
2.	Provisional estimates of the civilian population of States, July 1, 1973, and components of population change since April 1, 1970	20
3.	Annual estimates of the population of States: 1970 to 1973	21
4.	Average annual rates of population change for States by component: Selected periods 1940 to 1973.	22
5.	Provisional estimates of the resident population of standard Federal regions, July 1, 1973, and components of population change since April 1, 1970	23
6.	Provisional estimates of the civilian population of standard Federal regions, July 1, 1973, and components of population change since April 1, 1970	23
7.	Annual estimates of the population of standard Federal regions: 1970 to 1973	23

## APPENDIX

Table		
A-1.	Comparison of percent deviations from 1970 and 1960 census by selected methods	24
A-2.	Composition of standard Federal regions	25

# ESTIMATES OF THE POPULATION OF STATES WITH COMPONENTS OF CHANGE, 1970 TO 1973

(The population estimates for 1972 and 1973 were previously published in Advance Report No. 508. The numbers here supersede those published in Series P-25, Nos. 488 and 489.)

## INTRODUCTION

This report contains revised estimates of the population of States for July 1, 1970 through 1972 and provisional population estimates for July 1, 1973 together with provisional components of population change for the period April 1, 1970 to July 1, 1973. Data are summarized for both census regions and divisions and for standard federal regions. Annual rates of population growth by component are presented for 1970 to 1973 and for three previous periods--1940-50, 1950-60, and 1960-70.

A description of the methodology used in developing these estimates is included, together with discussion of the limitation of the estimates and an evaluation of the accuracy of the procedure for the 1960's. As a result of testing the estimating procedures against the 1970 census, they have undergone substantial changes. (See section on Methodology).

## GENERAL GROWTH TRENDS

A decided change in patterns of State population growth has occurred since the last decennial census of population, as indicated by the estimates in this report. The first three years of the 1970's have been a period of very slow population growth for the United States as a whole. The principal contributor to this slowdown has been another sharp drop in the birth rate, augmenting the decline experienced in the 1960's. Current birth rates in the United States are the lowest in our history, below those of the Depression. All States are experiencing this declining birth rate, with California and New York having the largest declines.

Concurrently there has been a sharp change in the pattern of net interstate migration from that of the past several decades. The South, even excluding Florida, is attracting net in-migration while the Northern industrial States are experiencing moderately heavy net out-migration. Southern California has been experiencing an economic downturn. This has resulted in a significant slowing of population growth in the State due to net migration. Somewhat blurring

the migration patterns between 1970 and 1972, was the net return to civilian life of one million persons who were serving in the Armed Forces, one-half from Vietnam, but this was no longer a factor after 1972.

The net effect of these changes are mixed. The large industrial States had downward trends in both births and migration, whereas many of the smaller and more rural States grew more rapidly because increased net migration more than offset a decline in births. The major resort States, Florida, Arizona, Nevada, and Colorado, where net migration rather than natural increase is the more important source of growth, have maintained rapid growth rates.

Since 1970, Florida has surpassed California as the State with the largest population increase. In the 3-1/4 year period between the April 1, 1970 census and July 1, 1973, Florida's population is estimated to have increased by nearly 900,000 or 13.1 percent (table A). Over the same time period, California, with three times the population, added 650,000 people, but its rate of growth was slightly less than the United States average of 3.3 percent.

Texas, with a population increase of 600,000 (5.3 percent), was the only other State adding more than 300,000. No State is estimated to have decreased in population between 1970 and 1973. The District of Columbia, however, is estimated to have declined 11,000 or 1.4 percent.

Although Florida has had the greatest numerical population increase since 1970, Arizona was the leader among the States in both rate of growth, 16.1 percent, and rate of growth due to net migration, 12.1 percent. Trailing Arizona and Florida in rate of population growth were Nevada (12.1 percent), Colorado (10.4 percent), and Alaska (9.3 percent). Arizona, Florida, Nevada, and Alaska along with California have been among the top five in rate of growth for each of the past three decades, although the rankings within these five have undergone some transposition from decade to decade.



Table A. Comparison of Population Change by Components: Florida vs. California: 1940 to 1973

(Numbers in thousands. All rates expressed per 1,000 initial population)

Date	Population	Change from preceding date				Average annual rate of change <sup>1</sup>			
		Total	Natural increase	Net migration		Total	Natural increase	Net migration	
				Resident	Civilian			Resident	Civilian
FLORIDA									
April 1, 1940....	1,897	-	-	-	-	-	-	-	-
April 1, 1950....	2,771	874	286	578	588	25.9	14.5	26.6	26.3
April 1, 1960....	4,352	2,180	584	1,616	1,619	58.1	18.5	45.9	46.6
April 1, 1970....	6,786	1,838	511	1,326	1,344	31.6	9.8	23.7	24.4
July 1, 1973.....	7,678	888	107	783	788	37.8	4.9	33.8	33.3
CALIFORNIA									
April 1, 1940....	6,807	-	-	-	-	-	-	-	-
April 1, 1950....	10,586	3,679	1,031	2,688	2,588	43.7	13.8	32.6	32.0
April 1, 1960....	15,717	5,131	1,689	3,142	3,098	30.8	17.2	26.0	26.0
April 1, 1970....	19,953	4,236	2,123	2,113	2,116	23.9	12.7	12.8	12.9
July 1, 1973.....	20,601	648	311	137	139	9.8	7.8	2.1	2.2

- Represents zero.

<sup>1</sup>The average annual rate of natural increase and net migration do not necessarily add to the total average annual rate of change. This anomaly occurs because the calculations of average annual rate of change by component assumes no interaction between them.

Source: Current Population Reports, Series P-25, Nos. 72, 304, 480, and this report.

Florida's estimated 782,000 net in-migration was almost four times that of the 214,000 net migration into Arizona, Texas, Colorado, California, and Tennessee also had estimated net in-migration exceeding 100,000.

Arizona and Florida both had net in-migration rates of over 10 percent. Nevada with a net in-migration rate of 8.7 percent and Colorado with a rate of 7.2 percent were the only other States having net in-migration rates above 5 percent.

New York is estimated to have lost over one-quarter of a million residents through net out-migration, or 1.5 percent of its 1970 population. Ohio with a loss of 185,000 people through net out-migration led all the States in rate of net out-migration, 1.7 percent, followed by Washington with 1.6 percent. Other States with large amounts of net out-migration were Illinois, Michigan, and Pennsylvania.

The combined net civilian out-migration from New York, Ohio, Illinois, Michigan, and Pennsylvania was considerably higher than the total out-migration.

The total out-migration for these five States was slightly over 700,000 while the net civilian out-migration from these States was nearly one million. The reason for this disparity is that these States, which have very small resident military populations, were estimated to have gained nearly 300,000 residents by virtue of the large cutbacks in military personnel both within the United States and abroad since 1970. In mid 1973, the total world-wide military population of the United States was 2.3 million, a decline of about one million from the 3.3 million on April 1, 1970.

Several of the more striking developments in State growth patterns during the early 1970's deserve more elaboration. Among them are the following: (1) California's rate of growth has fallen sharply; (2) The industrial States in the Northeast and North Central regions are experiencing the slowest rates of population growth in the country; and (3) Many of the more rural States which previously had the highest net out-migration are for the most part experiencing net in-migration.

**California.** California has led the Nation in total growth for the past five decades, and between 1940 and 1970 its intercensal growth was at least twice that of any other State. In fact, in every decade of this century California's rate of growth was at least double the United States average, and over the entire seventy-year period its annual average annual growth has been 3.7 percent. The remainder of the country has had an average annual increase of 1.3 percent per year over the same time period.

The slowdown in growth is largely attributed to a decided turnabout in Los Angeles County. Los Angeles County, the largest in the United States, is estimated to have lost about 70,000 people from 1970 to 1973.<sup>1</sup> Between 1960 and 1970 Los Angeles County's population increased by almost exactly one million persons. During the previous two decades, the population increases in this county were 1.9 million in the 1950's and 1.4 million in the 1940's.

California's declining growth in this decade is not wholly unexpected. The State had average annual population increases of over 500,000

during the 1950's and the first half of the 1960's. However, during the latter part of the 1960's growth slowed to 300,000 per year. Since 1970, the State has had an annual growth of about 200,000.

**Industrial North.** For a large section of the Eastern United States population growth has slowed considerably as an increasing net out-migration has combined with a reduced rate of natural increase. Thirteen Northern industrial States, extending from Southern New England in the East and including Minnesota and Missouri in the West have had a combined growth rate of only 1.4 percent since 1970. The rate of growth in these States was less than one-third that of the remainder of the United States, which had a population increase of 4.9 percent. Not only is the growth since 1970 in these densely settled Eastern States low, but the annual increments of growth are shrinking over the three-year interval (table B).

Wisconsin's growth rate of 3.4 percent since 1970 is about equal to that of the United States. New Jersey's growth rate of 2.7 percent was second among these industrial States and it exceeded only two States, Washington and Kansas, which are not part of the industrial North. In the preceding three decades only Pennsylvania among the industrial States has consistently ranked in the bottom quarter of the States in terms of growth rate.

These industrialized States have had a substantial net out-migration in this decade. However, even a return to the migration levels of

<sup>1</sup>Population Research Unit, California Department of Finance, Population Estimates for California Counties, August 17, 1973. In Current Population Reports, Series P-25, No. 505, The U.S. Bureau of the Census estimates a decline of 43,000 between 1970 and 1973.

Table B. Comparison of Population Change by Components for 13 Northern Industrial States: 1970 to 1973

(Includes Mass., N.H., Conn., N.Y., N.J., Pa., Ohio, Ind., Ill., Mich., Wis., Minn., Mo. Numbers in thousands. All rates expressed per 1,000 initial population)

Date	Population	Change from preceding date				Average annual rate of change <sup>1</sup>			
		Total	Natural increase	Net migration		Total	Natural increase	Net migration	
				Resident	Civilian			Resident	Civilian
April 1, 1970....	95,610	-	-	-	-	-	-	-	-
July 1, 1971.....	96,549	940	908	32	-164	7.8	7.6	0.3	-1.3
July 1, 1972.....	96,882	333	559	-226	-395	3.4	5.8	-2.3	-4.1
July 1, 1973.....	96,946	64	439	-376	-385	0.7	4.5	-3.8	-4.0

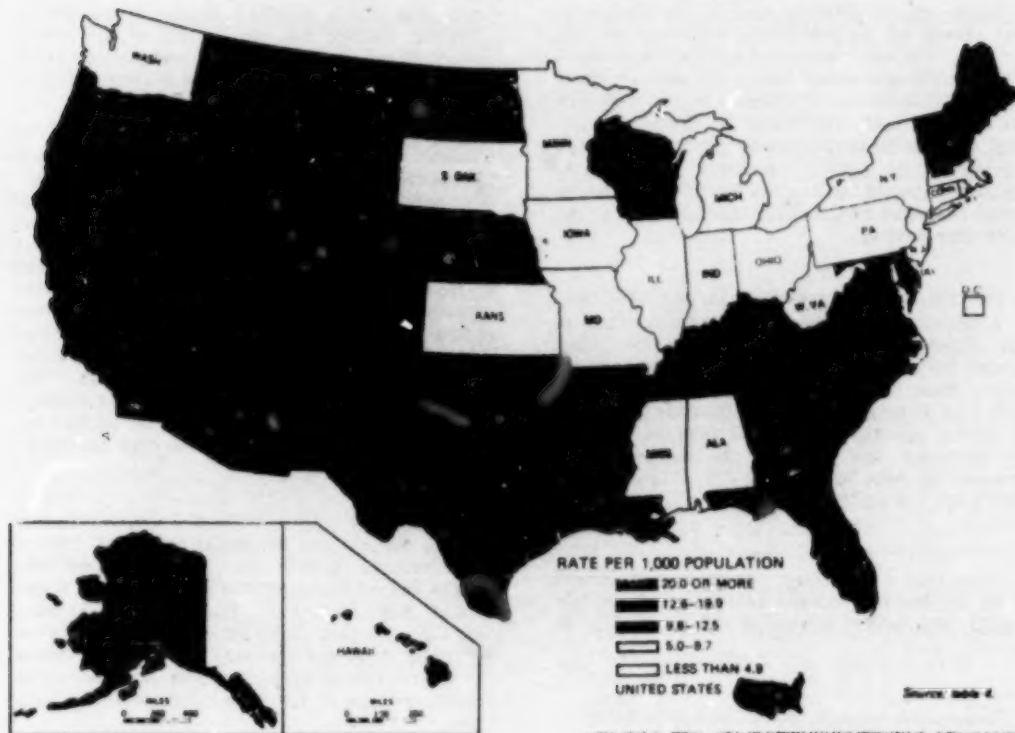
- Represents zero.

<sup>1</sup>The average annual rate of natural increase and net migration do not necessarily add to the total average annual rate of change. This anomaly occurs because the calculations of average annual rate of change by component assumes no interaction between them.

Source: Current Population Reports, Series P-25, Nos. 72, 304, 480, and this report.



Figure 2. Average Annual Rates of Population Change: 1970 to 1973



the past would not produce substantial growth unless births move upwards from their present low levels (table C).

Considering all of these States as a unit, natural increase has consistently accounted for over 90 percent of the population increase since 1940. The rate of natural increase since 1970 is only two-thirds the level of the 1940's and 1960's and only one-half that of the 1950's.

**The More Rural States.** The growth in the more rural States in the country, has greatly accelerated since 1970. Ten rural Northern States with a combined population of 11 million in 1970 have had an estimated population increase of 366,000 since 1970 (table D). This increase in only 3-1/4 years was greater than that occurring in the previous decade.

The fact that the rate of growth in these States since 1970 is three times that of the 1960's is even more remarkable considering that these States were also experiencing declining birth rates as did the Nation as a whole.

All of these States except Kansas are estimated to have gained population through net in-migration, and even for Kansas the rate of net out-migration is considerably lower than in the 1960's. During the 1940's and the 1950's each of these States incurred net out-migration, and in the 1960's only Vermont had net in-migration.

Although the rate of migration change in those small Northern States is striking, the estimated numerical changes in net migration to the South are much more significant. The change in migration is more clearly focused with the elimination of Florida, Texas, Virginia, Maryland, Delaware, and the District of Columbia. The five States are not included because they have had consistent in-migration in each of the past three decades, and the District of Columbia is eliminated on the obvious grounds that it is not a State, but serves as the core of a large metropolitan area.

During both the 1940's and 1950's the remaining 11 States had net out-migration amounting to about 3-1/4 million (table E). Between 1960 and 1970 net out-migration was more than halved to 1.3 million, but since 1970 these States are estimated to have

Figure 3. Average Annual Rates of Population Change: 1960 to 1970

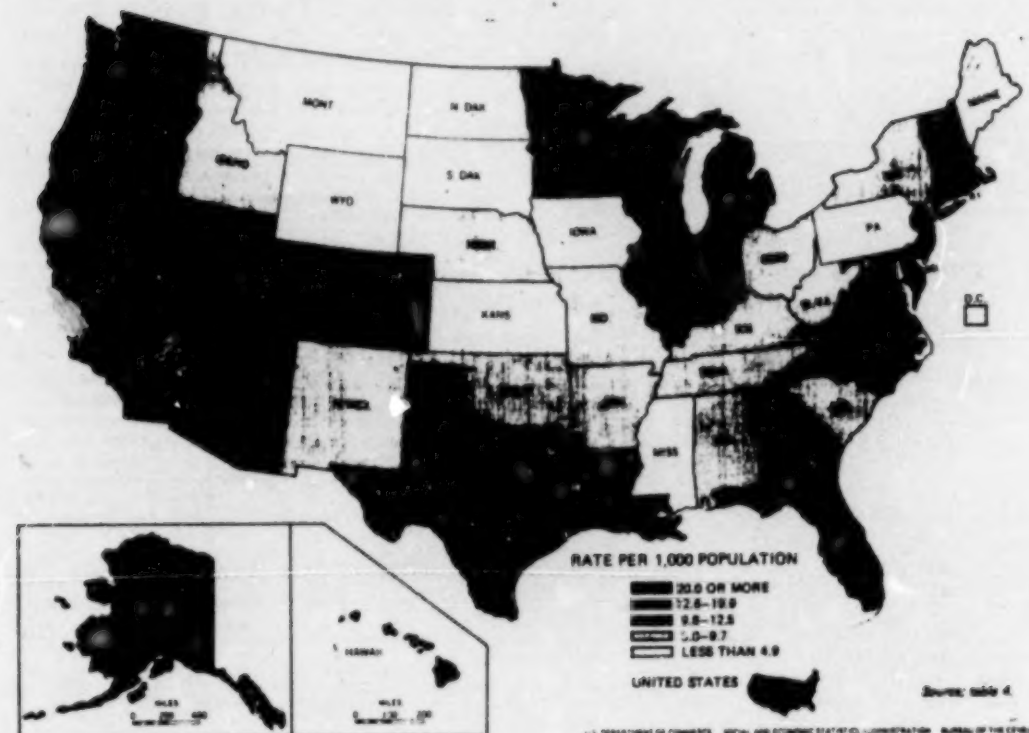


Table C. Comparison of Population Change by Components for 13 Northern Industrial States: 1940 to 1973

(Includes Mass., N.H., Conn., N.Y., N.J., Pa., Ohio, Ind., Ill., Mich., Wis., Minn., Mo. Numbers expressed in thousands. All rates expressed per 1,000 initial population)

Date	Population	Change from preceding date				Average annual rate of change <sup>1</sup>			
		Total	Natural increase	Net migration		Total	Natural increase	Net migration	
				Resident	Civilian			Resident	Civilian
April 1, 1940....	67,482	-	-	-	-	-	-	-	-
April 1, 1950....	74,990	7,508	6,848	661	1,254	10.5	9.7	1.0	1.8
April 1, 1960....	86,670	11,680	10,794	887	1,202	14.5	13.4	1.2	1.0
April 1, 1970....	95,610	8,940	8,754	185	508	9.8	9.6	0.2	0.6
July 1, 1973....	96,948	1,337	1,406	-570	-944	4.3	6.1	-1.8	-2.8

- Represents zero.

<sup>1</sup>The average annual rate of natural increase and net migration do not necessarily add to the total average annual rate of change. This anomaly occurs because the calculations of average annual rate of change by component assumes no interaction between them.

Source: Current Population Reports, Series P-25, Nos. 72, 304, 460, and this report.

a net in-migration of about 400,000. Unlike the Northern industrial States, there is very little difference between net resident migration and net civilian migration, since the net gain to the civilian population from the Armed Forces was in large measure countered by a decline in the resident military population.

**Population and net migration by race.** Current population estimates, by race, are not yet developed by the Bureau of the Census for States. Net interstate migration patterns vary significantly by race, as reflected in data from the past decennial censuses of population. Net out-migration of

blacks from the South, particularly to the North and West, has been substantial over the past three decades-- roughly 1-1/2 million net out-migration per decade. Net out-migration of the white population was also heavy but only during the first two decades--1940 to 1960. In the 1960's there was a net in-migration of whites to the South.<sup>2</sup>

<sup>2</sup>See *Current Population Reports*, Series P-25, No. 460, "Preliminary Intercensal Estimates of States and Components of Population Change 1960 to 1970," June 1971.

**Table D. Comparison of Population Change by Components for 10 Non-Southern Rural States: 1940 to 1973**

(Includes Me., Vt., Iowa, N.D., S.D., Nebr., Kans., Mont., Idaho, Wyo. Numbers expressed in thousands. All rates expressed per 1,000 initial population)

Date	Population	Change from preceding date				Average annual rate of change <sup>1</sup>			
		Total	Natural increase	Net migration		Total	Natural increase	Net migration	
				Resident	Civilian			Resident	Civilian
April 1, 1940....	9,482	-	-	-	-	-	-	-	-
April 1, 1950....	9,886	404	1,139	-735	-654	4.2	11.3	-8.1	-7.2
April 1, 1960....	10,692	806	1,591	-785	-770	7.6	14.9	-8.3	-8.1
April 1, 1970....	11,020	329	1,099	-769	-734	3.0	9.8	-7.4	-7.1
July 1, 1973....	11,386	366	230	136	77	10.1	6.4	3.8	2.1

- Represents zero.

<sup>1</sup>The average annual rate of natural increase and net migration do not necessarily add to the total average annual rate of change. This anomaly occurs because the calculations of average annual rate of change by component assumes no interaction between them.

Source: *Current Population Reports*, Series P-25, Nos. 72, 304, 460, and this report.

**Table E. Comparison of Population Change by Components for 11 Southern Rural States: 1940 to 1973**

(Includes W.Va., N.C., S.C., Ga., Ky., Tenn., Ala., Miss., Ark., La., Okla. Numbers expressed in thousands. All rates expressed per 1,000 initial population)

Date	Population	Change from preceding date				Average annual rate of change <sup>1</sup>			
		Total	Natural increase	Net migration		Total	Natural increase	Net migration	
				Resident	Civilian			Resident	Civilian
April 1, 1940....	27,925	-	-	-	-	-	-	-	-
April 1, 1950....	29,933	2,008	5,300	-3,295	-3,133	6.9	17.4	-12.6	-11.9
April 1, 1960....	32,164	2,231	5,609	-3,375	-3,343	7.2	17.3	-12.0	-11.9
April 1, 1970....	34,937	2,773	4,116	-1,343	-1,347	8.2	12.0	-4.3	-4.3
July 1, 1973....	36,331	1,294	1,006	387	346	12.1	8.7	3.4	3.1

- Represents zero.

<sup>1</sup>The average annual rate of natural increase and net migration do not necessarily add to the total average annual rate of change. This anomaly occurs because the calculations of average annual rate of change by component assumes no interaction between them.

Source: *Current Population Reports*, Series P-25, Nos. 72, 304, 460, and this report.

Since 1970, survey data (CPS) suggest that net out-migration of blacks from the South has not continued, as in the past, and may have largely disappeared as a source of net in-migration for States in the North and West.<sup>3</sup> These differential and changing patterns of interstate migration of blacks and whites are undoubtedly reflected in, and are affecting the State population trends discussed above. Postcensal 1970 data by State, and their patterns are lacking and their impact on current State population growth and trends is not known.

#### METHODOLOGY

The population estimates contained in this report were largely developed by averaging the results of two methods. Both of these methods use current data to estimate population change since April 1970. These methods are: (1) the Census Bureau's Component Method II, which employs vital statistics to measure natural increase and elementary school enrollment data to estimate net migration; and (2) the ratio-correlation method, in which a multiple correlation estimating equation is applied to the changes in the distribution of four different series of data to estimate changes in population.<sup>4</sup> The series of data used in the ratio-correlation method are: (1) elementary school enrollment, (2) number of Federal income tax returns filed, (3) passenger automobile registration, and (4) data on the work force.

Both methods were used only to estimate the civilian population under age 65. Estimates of the Armed Forces and the population 65 and over were added as a last step. The population aged 65 and over was estimated by adding to the 1970 census population aged 65 and over the estimated change in the number of people enrolled under "Medicare" (the hospital and/or medical insurance program under Title XVIII of the Social Security Act) between April 1, 1970 and the estimate date. The

number of Armed Forces in each State was estimated directly from Department of Defense reports showing the number of military personnel assigned to each installation, adjusted where necessary to reflect place of residence.

**Component Method II.** In Component Method II the procedure for estimating the civilian resident population under age 65 involves: (1) Subtracting an estimate of Armed Forces on April 1, 1970, from the 1970 census population that would be under age 65 on the estimate date (for July 1, 1973 this would be the population under age 61.75 on April 1, 1970); (2) adding births for the period between the 1970 census and the estimate date; (3) deducting an allowance for deaths (civilian plus military) occurring in this period to the population which would be under age 65 on the date of estimation; (4) adding an estimate of net civilian migration during the period of the population that would be under age 65 on the estimate date; and (5) adding an estimate of net movement between the civilian population and the Armed Forces (separations minus inductions plus military deaths) during the period.

The estimate of net civilian migration of the population under age 65 by Component Method II for each State was derived as follows: Net migration for children between exact ages 6.25 and 14.25 on the estimate date, for each postcensal period ending April 1, was developed on the basis of age data from the 1970 census together with fall school enrollment data for elementary grades 1 to 8 for 1969 and each later school year. The amount of net migration for school children in these ages was converted to a migration rate for these ages, and this rate was in turn converted to a migration rate for the entire civilian population under 65. These estimates of net migration and net migration rates relate to various postcensal periods and to cohorts with the indicated ages on the estimate date.

The procedure for converting the school-age migration rate to a migration rate for all ages under 65 was based on the relation of each State's net migration rate for females aged 5 to 64 (in 1970) for the 1965-70 period to the State's net migration rate for all children aged 5 to 14 (in 1970) for the 1965-70 period (a good approximation of the elementary school ages for the same period).<sup>5</sup> Rates for females were used rather

<sup>3</sup>*Current Population Reports*, Series P-20, No. 256, "Mobility of the Population of the United States: March 1970 to March 1973," November 1973.

<sup>4</sup>This is essentially the same method as the ratio-correlation method described by Goldberg, Schmitt, and others. See David Goldberg, Allen Feldt, and J. William Smit, "Estimates of Population Change in Michigan 1950-60," *Michigan Population Studies No. 1*, University of Michigan, Ann Arbor, Michigan, 1960, and Robert C. Schmitt and Albert H. Crosetti, "Accuracy of Ratio-Correlation Method for Estimating Post-Censal Population," *Land Economics*, Vol. XXX, No. 3 August 1954, pp. 279-280.

<sup>5</sup>Information on interstate migration by age for the period 1963-70 can be found in *Census of Population, 1970, Subject Reports, Final Report PC(2)-28, Mobility for States and the Nation*, table 59.



than the rates for both sexes combined for 1965-70 to avoid the problems resulting from military migration. The absolute difference between the two rates for each State, as reflected in the figures for 1965-70, was assumed to have grown linearly over time and, hence, it was reduced to an annual figure by dividing by five. Values of the difference between the rates for each year between the 1970 census and the estimate date were obtained by cumulating the average annual differences. This value was then added to the school-age migration rate to give an estimate of the migration rate for the total civilian population under age 65. The annual adjustment for States (excluding the District of Columbia) ranged from -0.4 percent in Washington and Oregon to +0.5 percent in Alaska and Nevada. For the District of Columbia it was +1.0 percent, a value consistent with that found for other large central counties of metropolitan areas.

The birth and death statistics used in developing the estimates were provided by the individual State vital statistics offices. No adjustment was made for underregistration of births and deaths. Vital statistics for calendar years 1970 and 1971 were final, except for a very small number of States. Most of the States also provided provisional estimates of vital statistics for calendar year 1972. For those States not providing final vital statistics, it was necessary to convert provisional data tabulated by place of occurrence to place-of-residence data based on past relationships between occurrence and residence data. The number of births and deaths for the first six months of 1973 for each State was estimated by assuming (1) initially that they would be equal to one-half the 1972 calendar year totals and (2) then adjusting the State figures pro rata to the national total.

The estimated net movement of civilians into the Armed Forces for a given State was developed by (1) taking the difference between (a) the number of persons serving in the Armed Forces who reported that State as their preservice residence on the estimate date and (b) the number serving in the Armed Forces on April 1, 1970, who reported that same State as their preservice residence and (2) adding an allowance for former residents of the State who died while serving in the Armed Forces.

In the present application four changes have been introduced in Component Method II compared with the variation of the method used in previous reports:

1. Births no longer include an adjustment for underregistration. A recent study of the completeness of birth registration has shown that the

completeness of reporting is very close to 100.0 percent and that the regional differences evident in the full scale test conducted in 1950 have largely disappeared.<sup>\*</sup>

Also the source of the vital statistics employed in preparing the population estimates has been changed. Birth and death statistics were secured directly from the individual State vital statistics agencies rather than from the National Center for Health Statistics as before. This step was taken mainly because the data compiled by States were more timely, but also because these data are not based on a sample, as are the data from the National Center of Health Statistics.

The elimination of the adjustment for under-registration has its greatest effect in the population estimates for South Carolina, Arkansas, and New Mexico. In these three States, reported births had been adjusted upward by about 5 percent in the 1960's and would have been adjusted upwards by over 4 percent in this decade had the previous factors been used.

2. Medicare statistics are used here to estimate change in the population aged 65 and over directly. The coverage of Americans aged 65 and over by the "Medicare" program is almost universal. The 20 million people on the rolls in 1970 almost exactly matches the population 65 and over in the 1970 census. (Only for Florida and, to a lesser extent, for Arizona and northern New England is there much disparity between this source of information and the census.) Furthermore, the migration of this age group is not highly correlated with school-age migration. Hence, Medicare is a preferred source for estimating the population of the 65-and-over group. This modification restricts the application of the basic Component Method II procedure to the population under 65--about 90 percent of the total population. It has particular impact on the estimates for Florida, where migration of the aged population is so great, and is expected to improve the estimates for that State.

3. A number of modifications have been introduced in connection with the estimates of school-age migration. They are:

a. Grades 1 to 8 plus ungraded enrollment were substituted for grades 2 to 8 plus ungraded elementary enrollment. Formerly it

<sup>\*</sup>See Bureau of the Census, Current Population Reports, Series P-27, No. 460, p. 5, and Evaluation and Research Program: Test of Birth Registration Completeness, 1964 to 1968, PHC(E)-2, 1973.

had been assumed that the high attrition from grade 1 to grade 2, relative to the attrition between the other elementary grades, made the elimination of data for grade 1 desirable in estimating school-age migration. However, the increased numbers of pupils in special education programs in many school districts throughout the United States introduced the additional problem of how to allocate

a share of the special and ungraded elementary students to grade 1. The estimating procedure using grades 1 to 8 plus "special and ungraded elementary" was tested for 1970 for comparison with the procedure using grades 2 to 8 plus "special and ungraded elementary." This test showed no advantage in using grades 2 to 8.

b. Ages 6.25 to 14.25 as of April 1 for any year were selected as corresponding best to grades 1 to 8 on the assumption of a universal entry into first grade in the calendar year in which the child attains his 6th birthday. With no skipping or falling of grades, the youngest first graders would then be 6.25 on April 1 of a particular school year and the oldest eighth graders would be 14.25.

c. Wherever possible, fall enrollment for a given school year is used as the measure of school enrollment for that school year for a State.<sup>\*</sup> Fall elementary enrollment for school year 1972-73 is assumed to have the same relationship to the population aged 6.25 to 14.25 on April 1, 1973, as fall enrollment for school year 1969-70 had to the population 6.25 to 14.25 on April 1, 1970. Formerly, fall school enrollment for two consecutive school years was interpolated to obtain an enrollment figure for the intervening mid-year date. However, test calculations indicate that use of a single year's fall school enrollment yields a slightly lower average deviation from the 1970 census. Moreover, the use of fall enrollment has the additional advantage of making the provisional estimates more timely.

4. The procedural change which had the greatest impact on the estimates was the use of a factor specific for each State to convert the school-age migration rate to a migration rate for all civilians under age 65. These factors relate to a past period, however, and hence they may not reflect current age patterns of net migration.

<sup>\*</sup>Some small non-State-funded schools still tabulate enrollment at the end of the school year.

The past practice of using a single adjustment factor based on the national data from the Current Population Survey did not allow for the variation in the relative levels of net migration rates by age that could be expected from State to State. Previously, the net migration rate of all ages for a particular State was assumed to be directly proportional to the rate of school-age migration for that State. The factor of proportionality for any particular year was derived from the annual March Current Population Surveys for the years since the last census and reflected the ratio of the gross interstate migration rate for the total population to the gross interstate migration rate for school-age children for the postcensal period.

The new procedure fails to allow specifically for the change over the estimating period in the relationship between the school-age migration rate and the "all-ages" migration rate resulting from the shift in the ages of these "cohorts" with the variation in the length of the postcensal estimating period. Because the ages of the children who were of school age on the estimate date would vary over the postcensal estimating period in relation to the length of the estimating period and because migration rates vary by age, the ratio of the migration rate of the total population to the migration rate of the school-age population would necessarily vary with the length of the estimating period. Theoretically, therefore, a variable ratio of migration rates should be used for estimating periods of different lengths, derived preferably from current information on the age distribution of migrants. Such an adjustment was not made in the current set of estimates, however, because the information necessary to measure the changing relationship of migration rates over the postcensal estimating periods 1970-71, 1970-72, and 1970-73, especially for States, was not available and because the migration rates for these short postcensal periods are relatively low. In any case, the procedure of adjusting the State figures for the "expected" population under 65 years of age (which incorporates the preliminary estimates of net civilian migration for States based on migration rates) to the national independently derived estimate of the civilian population under 65 years of age, as was done in preparing the present population estimates, takes care, in part, for the "age-exposure" problem noted here.

The assumption that the difference between the one-year migration rates of the two groups does not change from year to year and that the difference can be applied cumulatively for an entire decade is subject to error. In many cases, the assumption implies very roughly that the ratio of the cumulative rates covering varying periods



of calendar years does not change. If the age pattern of migration rates remains the same as in the 1965-70 period, this assumption would be approximately valid for a set of five-year post-censal estimates, i.e., the 1975 estimates.

Nevertheless, test calculations for 1970, representing 10-year postcensal population estimates for 1960 to 1970 and employing the age patterns of net migration for 1955-60, resulted in a perceptible reduction of the average percent error in the estimates, as compared with the previous method.

Analysis of migration data for the 1955-60 period from the 1960 census and of migration data for the 1965-70 period from the 1970 census indicates considerable variation from State to State in the age pattern of migration rates. States having a high proportion of their population in large urban centers have a tendency toward a higher net in-migration of "all ages" than of the school-age population, and the reverse is true for States having a high proportion of their population in the suburbs of large metropolitan areas. This tendency, which is much more evident at the county level, is generally a reflection of the peculiar migration pattern of young adults. Typically, they are no longer living with their parents, are too young to have children of school age, have very volatile migration, and move in patterns counter to the remainder of the population.

**The Ratio-Correlation Method.** In the ratio-correlation method, as applied here, the percent changes in the State distribution of four symptomatic variables from 1970 to the estimate year are used to estimate the percent changes in the State distribution of the civilian population under age 65 from 1970 to the estimate year. First, the percent changes in the State distribution of the population between 1970 and the estimate year are derived by the use of an estimating equation based on the relationships between four symptomatic variables and population for 1960 and 1970 in combination with current data for the symptomatic variables. This estimated percent change in the States' distribution of population is in turn multiplied by the share of the United States civilian population under age 65 that the State had in 1970. This second step yields a preliminary estimate of the State distribution of the civilian population under age 65 in the estimate year. As a third step, the figures in the preliminary distribution are adjusted proportionately to sum to 100.0 percent. The final step is to apply these distributions to an independent national estimate of the civilian population under age 65 in the estimate year. (In the remainder of this section, the term

"population" will be used to refer to the "civilian population under age 65").

The estimate of the change in a States' share of the national population from 1970 to the estimate year is calculated from a linear estimating equation, fitted by the method of least squares, relating the percent change in the distribution of population between 1960 and 1970 and the percent change in the distribution of four symptomatic or indicator variables between the same two dates. The indicators are: (1) The number of students enrolled in elementary school, (2) the number of Federal income tax returns, (3) the number of registered passenger cars, and (4) the number of persons in the work force.

The basic estimating equation may be expressed as follows:

$$\hat{y}_j = b_0 + b_1 x_{1j} + b_2 x_{2j} + b_3 x_{3j} + b_4 x_{4j}$$

where,  $\hat{y}_j = \frac{\hat{p}_j}{p} (197N)$  being the estimated proportion of the United States' population in State j in the estimate year, and

$\frac{p_j}{p} 1970$  the proportion of the United States' population in State j at the time of the 1970 census.

and,  $x_{1j} = \frac{s_j}{s} 197N + \frac{s_j}{s} 1970$  being the proportion of all U.S. students enrolled in elementary school who are enrolled in State j. The superscripts refer to the year of the census or estimates.  $x_{2j}$ ,  $x_{3j}$ , and  $x_{4j}$  are defined in a manner analogous to  $x_{1j}$ , with elementary school enrollment being replaced by the number of Federal income tax returns, the number of passenger car registrations, and the number of persons in the work force. The b's are constants derived from fitting the least squares linear estimating equation to the corresponding data for the years 1970 and 1960 for each of the States and the District of Columbia.

The procedure described above is dependent on the premise that a linear relationship does indeed exist between the change in the distribution of the symptomatic variables and the change in the distribution of population. If the linear

relationship between a given independent variable and the dependent variable is weak, relative to the linear relationship between other independent variables and the dependent variable, that particular independent variable will not be useful as an indicator of change in population and the resulting multilinear equation will not be as effective as it otherwise might be. The matrix of observations for the 1960-70 period yielded the following statistical relationships:

Variable	Coefficient of correlation (r)	Net coefficient of estimation (b)
Constant.....		.13
School enrollment....	.934	.44
Federal income tax returns.....	.848	.08
Passenger car registrations.....	.818	.01
Work force.....	.948	.34

It should be recalled that the correlation coefficients indicate the relationship between the change in the population distribution and the change in the distribution of the symptomatic variable. The coefficient of multiple correlation is .987 and the standard error of estimate is .020.

The coefficient of multiple correlation is sufficiently high (or the unexplained variance is sufficiently low) for these four variables to be adequate for estimating population change in the 1970-80 decade. However, neither the changes in Federal income tax returns nor the changes in passenger car registrations had sufficiently high correlations with population, in comparison with the other variables, to yield high values of "b." In effect, the statistics on Federal income tax returns and passenger car registrations have negligible impact in estimating population change in the 1970-80 period when school enrollment statistics and work force statistics are employed in the estimating equation.

This weakness of two indicator variables, in itself, is not a problem provided that one or more other indicators are strong. If the indicator "strength" of school enrollment and/or work force were to decline after 1970, a new equation with heavier weights for Federal income tax returns and passenger car registrations would result and this equation would be far less satisfactory as an estimating device for the 1970-80 period.

For the 1960-70 period and the 1950-60 period as well, births had been one of the strongest indicators of population. The inclusion of births

in an estimating equation for 1960-70 with the four symptomatic variables previously listed yielded a line having a standard error of only .014, as compared with .020 in the above table. At face value this was a better equation and births should ostensibly have been used to make postcensal ratio-correlation estimates for 1970-80. However, some States were in the process of removing restrictions on abortions in advance of the 1973 Supreme Court ruling. In these States, the decline in the number of births between 1970 and 1972 was much sharper than for the remainder of the Nation. As a result, the ratio-correlation estimates gave unrealistically low population estimates for these States. This was most apparent in the two largest States, California and New York. Because the population estimates were so unrealistic, a "reserve" equation eliminating births as an indicator of population had to be developed. Ideally, one hopes that the "reserve" equation is nearly as "strong" as the original equation. The optimal way of creating this result is to find additional variables highly correlated with population or to make some sort of a transformation of the variables already at one's disposal.

An examination of the basic data for the 1960-70 period revealed that the changes in the distribution of the number of Federal income tax returns, the number of passenger car registrations, and the size of the work force from 1960 to 1970 did not correlate closely with the change in the distribution of population because the hypothesis of linearity between the dependent variable and independent variable was not particularly applicable. In almost every Southern State the changes in the distribution of Federal income tax returns and passenger car registrations were considerably greater than the changes in the distribution of population. The changes in the distribution of the work force was in the same direction but the magnitude was not as marked. When the relationships of the previous decade, 1950 to 1960, were re-examined, the same phenomenon was noted. Clearly, some of the increase in these three variables in the Southern States over the past two decades reflected an increased level of affluence of the population of this Region. Elementary school enrollment which is compulsory by law, did not behave in a manner permitting prediction. The data in table F shows the effect of this increased level of affluence in terms of "area coverage ratios" for the three variables which depend directly on economic conditions.

An area coverage ratio represents the ratio of the rate for an area for a symptomatic variable (e.g., Federal income tax rate, or the percent

Table F. Area Coverage Ratios for Symptomatic Variables for Selected Years, by Regions

Variable	Region	Actual ratios			Expected ratios	
		1950	1960	1970	1970 (based on 1950-60)	1980 (based on 1950-70)
Federal income tax returns	Northeast	118.3	112.3	107.0	106.3	101.7
	North Central	110.6	103.3	100.6	100.0	100.0
	South	73.3	85.4	92.5	97.5	99.2
	West	104.0	103.2	102.7	102.4	102.2
Automobile registrations	Northeast	90.8	90.7	90.4	90.7	90.4
	North Central	112.9	104.4	101.6	100.0	100.0
	South	84.0	94.1	100.1	100.0	100.1
	West	127.7	118.4	110.6	109.1	103.2
Work force	Northeast	107.9	108.3	104.5	108.3	100.7
	North Central	106.4	101.9	100.9	100.0	100.0
	South	89.4	92.1	96.2	94.8	100.0
	West	95.2	98.2	99.1	100.0	100.0

of the population filing income tax returns) to the corresponding national rate at a given date, per 100, that is,

$$\frac{V_{ij}}{P_j} \div \frac{V_1(U.S.)}{P(U.S.)}$$

where  $V_{ij}$  = value of variable  $i$  for area  $j$

$P_j$  = population of area  $j$

$V_1(U.S.)$  = value of variable  $i$  for United States

$P(U.S.)$  = population of the United States

Algebraically, these ratios are equivalent to the ratio of the area-of-U.S. proportion for the variable to the area-of-U.S. proportion for the population. (All of the basic calculations in this report were carried out with States as units but statistics for the regions are presented in Table F for illustrative purposes.)

The coverage ratios for 1950, 1960, and 1970 in table F provide evidence of fairly large interdecade change for the four regions of the United States although the changes are generally much smaller for 1960-70 than for 1950-60. For all the symptomatic variables except School enrollment the coverage ratio for the Southern States has been increasing quite rapidly and there have been concurrent declines in the other regions of the country. In general, there appears to be a trend toward convergence of the State values to the United States average. Accordingly, it was

decided to transform the current reported data for each of these three symptomatic variables so as to allow for the tendency for the indicator variable to move at a faster or slower pace than population. In view of the fact, however, that the basic estimating equation already allows in part for the differences in the change of the indicator variables and the change in population, and that area rates for particular symptomatic variables are converging a limit of 100.0 was set for the projected coverage ratios. The State coverage ratios for 1970 used for the 1960-70 estimating equation were derived according to the following specific set of rules:

1. If the coverage ratio for any State was monotonically rising to 100.0 (i.e., 1950 < 1960 < 100.0), then the estimated State coverage ratio for 1970 was established by linear extrapolation of the 1950-60 trend, with a value of 100.0 as an upper limit.

2. If the coverage ratio for any State was monotonically falling to 100.0 (i.e., 1950 > 1960 > 100.0), then the estimated State coverage ratio for 1970 was established by linear extrapolation of the 1950-60 trend, with a value of 100.0 as a lower limit.

3. For every other situation the estimated State coverage ratio for 1970 was set equal to the coverage ratio in 1960. In these States, the

coverage ratio was moving away from 100.0 between 1950 and 1960 and it was believed, therefore, that it would be hazardous to estimate the 1970 coverage ratio by projection.

Here is an illustration of how the transformation of the data for the indicator variables for 1970 was accomplished. Assume that the number of Federal income tax returns filed for a given State was 800,000 in 1960 and 1,000,000 in 1970, and that the coverage ratio for that State was 118.3 in 1950 and 112.3 in 1960 (the figures for the Northeast). By rule (2) the expected coverage ratio for this State in 1970 would be 106.3, and the transformed number of Federal income tax returns for 1970 would be  $112.3 \times 1,000,000$ , or 1,056,444. This transformed

number would replace the original figure of 1,000,000 for 1970 and the reported Federal income tax returns for 1960 would remain at 800,000.

Assume further that the total number of Federal income tax returns filed was 70,000,000 in 1960 and 80,000,000 in 1970. Finally, assume that the sum of the transformed Federal income tax returns for all States in 1970 was 80,100,000. Then the value of  $X_{2j}$  used in formulating the estimating equation relating the change in the distribution of Federal income tax returns from 1960 to 1970 and the change in the distribution of population from 1960 to 1970 for that State would be  $(1,056,444) \div (80,100,000) \div (70,000,000)$ .

If the original reported numbers only are used, the equivalent statistic would be  $(1,000,000) \div (80,000,000) \div (70,000,000)$ , or 1.0938.

The coefficients of the estimating equation based on transformed data are as follows:

Variable	Coefficient of correlation	Net coefficient of estimation
Constant.....	-	.11
School enrollment...	.951	.26
Federal income tax returns.....	.950	.25
Passenger car registrations.....	.907	.04
Work force.....	.950	.31

The coefficient of multiple correlation is .986 and the standard error of estimate is .021.

The simple correlation of the change in the school enrollment distribution and the change in the distribution of population is the same for both the original and transformed data. Reported school enrollment statistics were not "transformed" because there did not appear to be any

trend in the coverage ratio over time. The increase in the correlation coefficient for work force is minuscule but the transformed figures on Federal income tax returns and passenger car registrations yielded significantly higher simple correlation coefficients. This improvement is reflected in the higher weights assigned to these variables.

The equation  $\hat{Y}_j = .14 + .26X_{1j} + .25X_{2j} + .04X_{3j} + .31X_{4j}$  was used to estimate the change in each State's share of population from 1970 to the estimate year. However, before this could be accomplished, the  $(X_{1j})$  term for the estimate year was transformed according to the set of rules established above, with the appropriate modification of the years (i.e., 1950 is replaced by 1960, 1960 is replaced by 1970, and 1970 is replaced by 1980). After the estimated coverage ratio was established for 1980, linear interpolation was used to develop estimated coverage ratios for all the years between 1971 and 1973.

An example, illustrating the solution for  $X_{2j}$  in 1973, is as follows: Our hypothetical State is assumed to have the same State coverage ratio as the Northeast had in 1960 and 1970. Table F gives 101.7 as the estimated coverage ratio for 1980 and, by linear interpolation, the coverage ratio for 1973 would be 105.29. In 1973, the number of Federal income tax returns filed for the State was 1,025,000, as compared with 1,000,000 in 1970. Then, by the transformation rules, the number of returns filed for the State in 1973 would be set at  $107.0 \times 1,025,000$ , or 1,041,647. The transformed 1973 figure would replace the reported figure of 1,025,000. The 1970 figure of 1,000,000 does not change. The number of Federal income tax returns filed in the United States was 83,000,000 in 1973 and the sum of all the transformed numbers for 1973 was 84,900,000. Then, the value of  $X_{2j}$  used in the estimating equation to estimate the change in the distribution of population from 1970 to 1973 for States is:

$$\frac{(1,041,647) - (1,000,000)}{(84,900,000) - (80,000,000)} \text{ or } 0.9815$$

The major difference in the variation of the ratio-correlation method employed here from the variation employed previously was the transformation of the reported data for the three indicator variables to take direct account of the changes in "coverage ratios" for the three variables in each State. The rules for the transformation were based on empirical observations and strongly reflect a particular appraisal



of these observations. Nevertheless, there is strong empirical evidence for the basic premise that State values will converge to a national level at some future date and that the estimating equation based on the prior decade may not adequately allow for this convergence.

A second change was to limit the dependent variable to the civilian population under age 65; the total resident population was "employed" before. This change was made for the same reasons as described in the section on Component Method II.

Finally, both births and deaths have been eliminated as symptomatic indicators. Deaths were dropped because they are not highly associated with the population under 65. (Approximately two-thirds of the United States annual death toll of two million occur to the 10 percent of the population over age 65, while only one-third occur to the remaining 90 percent of the population.) Births were dropped for reasons set forth earlier.

Estimates for July 1, 1973, 1972, and 1971. The description of methodology in the previous section is applicable to the preparation of the provisional estimates for July 1, 1973 with one major modification. When these estimates were prepared, no information was available on Federal income tax returns and passenger car registrations for 1973. Hence the ratio-correlation estimate for July 1, 1973 was developed by using the standard ratio-correlation estimate for July 1, 1972 as a benchmark and a two-variable ratio-correlation estimate (school enrollment and work force) to measure the change from July 1, 1972 to July 1, 1973.

In addition to this one major modification, a number of minor changes were made in both Component Method II and the ratio-correlation method. These would not have any appreciable effect on any State's estimate. It is important to note that the provisional estimates developed in this report rely completely on current symptomatic data. In previous years the provisional series included a large element of extrapolation of the net migration component for the last year of the estimating period.

All estimates are subject to revision. Minor modifications in procedure are constantly being introduced into the estimating techniques. Of more importance is the fact that changes in "input" data for prior years are often introduced which can cause a sizeable change in successive population estimates for the same date. This is especially true since Current Population Reports, Series P-26 (Federal-State Cooperative Estimates for Counties), has become a regular part

of the Bureau of the Census' series on population estimates. Data "input" which appears reasonable at the State level may be decidedly unacceptable when apportioned among the individual counties. When these incongruities are discovered, the change in the county data is carried forth to the State estimates for the following year.

In spite of the problems involved in converting from provisional to revised numbers, the changes between one set of provisional numbers and the corresponding revised estimates are not great at the State level. The revised estimates of the resident population for July 1, 1972 appearing in this report differ from the provisional estimates for July 1, 1972 appearing in Current Population Reports, Series P-25, No. 488, by an average of 0.4 percent. Sixteen States had revisions of 0.5 percent or more, with the largest revision being 1.5 percent (Arkansas).

The differences between the revised estimates of population for 1971 in this report (second revision) and the revised estimates for the same date shown in Series P-25, No. 488 (first revision), are quite small. On the average, they are about half as great as the differences between the provisional estimates and the first set of revised estimates. The average difference is 0.2 percent, with a maximum of 0.8 percent in New Mexico and Hawaii. Six States had revisions of 0.5 percent or more.

Estimates for July 1, 1970. The methodology and data used in preparing these State estimates do not permit meaningful estimates of population change for periods of less than one year. Consequently, the net migration component for the period April 1, 1970 to July 1, 1970 was calculated by taking a proportional part of the estimated net migration for the period April 1, 1970 to July 1, 1971.<sup>8</sup> As a final step, these preliminary estimates of the individual components were adjusted proportionately to sum to the United States totals for the period April 1, 1970 to July 1, 1970.

#### LIMITATIONS OF THE ESTIMATES

The estimated change in population between two dates for a State consists of three elements; (1) births, (2) deaths, and (3) net migration. Net migration itself can be divided into two components: (a) net civilian migration and (b) net military migration. The latter reflects

<sup>8</sup>For convenience natural increase was derived in the same way although vital statistics by month are available.

(1) net change in resident Armed Forces station strength, plus (2) net interchange between the military population and the civilian resident population, plus (3) deaths of the military population in the State.

The statistics on births and deaths compiled by the vital statistics offices of the individual State Health Departments are considered quite accurate. Accordingly, any error made in estimating postcensal population change is assumed to be concentrated in the estimate of net migration, particularly the net civilian migration component.<sup>9</sup>

Intuitively, it is believed that the absolute error in the estimate of population change increases with the length of the estimating period but that the error does not increase linearly. Thus, the error in the estimate for the 3 1/4 year period is expected to be less than the error in the estimate for the 10 year period but the precise relationship is not known.

Criteria for Evaluating Estimates. In developing the methodology for making postcensal population estimates, one may identify four general criteria for evaluating the various methods:

1. Accuracy: Does a test of the procedure demonstrate its closeness to a predetermined standard (e.g., the census)?

2. Reliability: Are the estimates of population generated by various techniques supportive of one another?

3. Continuity: Are the annual estimates of population and, particularly, net civilian migration generally devoid of abrupt changes in pattern from year to year?

4. Demographic and statistical logic: Does the procedure conform to a logical model of how demographic changes occur?

A. Accuracy: When the postcensal estimates for 1970, based on the 1960 census, were evaluated against the 1970 census, it was found that these estimates varied substantially from the 1970 census. Not only was the average error (i.e., average percent deviation from the census)

higher in 1970 than 1960 (1.64 in 1960 vs. 1.85 in 1970), but also there was a marked regional bias in 1970. The larger errors were generally confined to the Southern States and these errors had a strong positive bias, i.e., a substantially higher proportion of the estimates in these States exceeded the 1970 census counts than were below them.<sup>10</sup> Accordingly, a number of revisions were made in both Component Method II and the ratio-correlation method.<sup>11</sup> The results of the revisions appear in Table G.

Weighting the results of the two techniques equally yielded an average deviation from the 1970 census of 1.18 percent, with only 7 States having deviations greater than two percent. The largest individual State deviation was 3.2 percent.

The 1970 postcensal ratio-correlation estimates (modified procedure) were based on a linear estimating equation with equal weights for the four indicator variables rather than a linear estimating equation containing "actual" coefficients and providing a least squares solution. This course was taken because there was no satisfactory statistical basis for deriving the coefficients; data for 1940 would have been required but they were not available for all variables. The least squares coefficients that are being used to generate the current ratio-correlation estimates yield a line from which the individual observation differed by an average of 1.36 percent from the 1970 census.

B. Reliability: Tests of the two estimating procedures show a positive correlation between the "spread" of the two estimates and the error in estimating population; that is, the larger the difference between the two estimates, the larger the error in the estimates. This is to be expected, but the differences were not large. In 15 States, the two 1970 postcensal estimates were within one percent of each other, and in these cases the deviation from the 1970 census (as measured by the average of methods) was 0.96 percent. In 19 States the difference between the two methods for 1970 ranged from one to three percent and in these cases the deviation from the 1970 census (as measured by the average of methods) was 1.19 percent. For the remaining 17 States, those with "spreads" exceeding three percent, the deviation from the

<sup>9</sup>Another source of error in estimating population change is the difference in the amount of underenumeration between adjacent censuses. Between 1960 and 1970 the estimated difference in the amount of underenumeration for the United States was only 0.2 million. Estimates of underenumeration for individual States are not available at this time.

<sup>10</sup>See Meyer Zitter and David Word, "Did Inter-censal Estimates go wrong in the 1960's? A view from the national level," Proceedings of the American Statistical Association Social Statistics Section, 1971.

<sup>11</sup>A description of Component Method II and the ratio-correlation method as used during the 1960's can be found in Current Population Reports, Series P-25, No. 480.



**Table G. Percent Deviation of Postcensal Population Estimates From Census Counts, by Method, for States: 1970 and 1960**

(The "standard" procedure refers to the methodology used in the 1960's and the "modified" procedure refers to the methodology being used currently. Alaska and Hawaii are not included in the 1960 Summary.)

Area	Component Method II			Ratio-correlation method			Average of methods		
	Modified procedure	Standard procedure		Modified procedure <sup>1</sup>	Standard procedure		Modified procedure	Standard procedure	
		1970	1960		1970	1960		1970	1960
All States N-81 (N-49 1960)									
Average deviation.....	1.42	2.32	2.31	1.67	2.00	2.72	1.18	1.88	1.64
Deviations greater than 2%.....	16	24	21	18	21	27	7	19	13
Deviations greater than 4%.....	3	8	9	4	6	13	0	4	5
South N-17									
Average deviation.....	1.33	3.72	3.16	2.00	3.08	2.79	1.00	3.23	1.98
Deviations greater than 2%.....	8	13	8	8	12	9	3	14	6
Deviations greater than 4%.....	1	7	4	1	5	4	0	4	2
North and West N-34 (N-32 1960)									
Average deviation.....	1.47	1.62	1.87	1.46	1.47	2.68	1.22	1.17	1.51
Deviations greater than 2%.....	10	11	13	10	9	18	5	5	7
Deviations greater than 4%.....	1	1	5	3	1	9	0	0	3
Large States <sup>2</sup> N-16									
Average deviation.....	1.27	2.01	1.80	1.15	1.56	2.41	1.02	1.75	1.23
Deviations greater than 2%.....	5	7	6	3	3	8	1	6	3
Deviations greater than 4%.....	0	1	2	0	2	3	0	0	0
Medium-sized States <sup>3</sup> N-18									
Average deviation.....	1.47	2.56	1.80	2.06	2.73	3.29	1.30	2.59	1.37
Deviations greater than 2%.....	7	9	7	9	11	9	4	10	5
Deviations greater than 4%.....	1	5	2	2	4	4	0	4	1
Small States <sup>4</sup> N-17 (N-15 1960)									
Average deviation.....	1.52	2.37	3.48	1.72	1.63	3.56	1.30	1.18	2.41
Deviations greater than 2%.....	4	8	8	6	5	10	2	3	5
Deviations greater than 4%.....	1	2	5	2	0	6	0	0	4

<sup>1</sup>Estimating equation based on equal weighting of four variables.

<sup>2</sup>1970 population more than 4 million.

<sup>3</sup>1970 population between 1.5 million and 4.0 million.

<sup>4</sup>1970 population less than 1.5 million.

1970 census (again measured by the average of methods) was 1.35 percent.

The difference between the two sets of estimates tends to grow over time but the increase in the difference is moderate:

Year	Average percent difference between procedures <sup>1</sup>	Maximum percent difference between procedures
1971.....	0.54	2.7
1972.....	0.76	3.1
1973 (prov.).....	1.02	3.3
1970 (base-1960).....	2.37	8.3

<sup>1</sup>Disregarding sign of individual State differences.

C. Continuity: Annual estimates of civilian migration are not shown in this report since they are subject to a great degree of variability. Nearly all of the revisions in the estimates from year to year are reflected in this single component. Consequently, a relatively small upward revision in the estimate of the total population of a large State in one year, combined with a relatively small downward revision for that State in the following year may result in a very significant change in the estimated net migration in the intervening period. Nonetheless, it is important that the annual estimates of net migration have some degree of stability and that they do not shift erratically in direction and volume from year to year unless there is specific evidence to support such changes. (For example, the Boeing Company in Seattle, Washington, has had large

year-to-year variation in employment over the past 15 years, and the annual estimates for the State of Washington in particular have fluctuated erratically but in a manner that appeared to be associated with changes in employment at Boeing.)

D. Demographic and statistical logic: In the selection of a method or specific procedure the technician may be faced with the question whether to prefer a procedure which on testing gives the more accurate results or to prefer a procedure which is theoretically superior. The problem arises in large part because the standard used to evaluate the estimating procedure--typically the census count--is itself subject to error and may give a misleading impression as to the "true" error characteristic of the procedure. The issue of an antithesis between empirical results and a theoretical model is more likely to arise when the average error of the methods becomes very small, perhaps smaller than the errors in some of the census counts.

The annual estimates of net migration for States are reflected in the annual estimates of the civilian population and are generally quite consistent from year to year.

We would generally expect the differences in annual net migration rates for adjacent years to be small and to tend toward zero. For example, the rate of net civilian migration between July 1, 1970 and July 1, 1971 should approximately equal the estimated rate of net civilian migration between July 1, 1971 and July 1, 1972, and the estimated rate of net civilian migration between July 1, 1971 and July 1, 1972 should approximately equal the estimated rate of net civilian migration between July 1, 1972 and July 1, 1973. The distribution of the 102 observations (51 areas (x) 2 sets of differences) between the annual rates of net civilian migration for States covering migration experiences over the first three years of the decade is as follows:

Annual differences in net migration rates	Number of observations
Less than 0.25 percent...	46
0.25 percent to 0.49 percent.....	29
0.50 percent to 0.74 percent.....	12
0.75 percent to 0.99 percent.....	10
More than 1.00 percent...	6

Nearly three-fourths of the observed differences vary by less than one-half percent. Of the six cases where the estimated annual rate of net civilian migration for adjacent years varies by more than 1 percent, there are States (Florida, Arizona, and Alaska) which had extremely high annual rates of net migration. In these States, large fluctuations in the magnitude of net civilian migration in adjacent years could very well be valid.

#### SOURCES OF DATA

Most of the statistics used to prepare the State population estimates presented in this report were obtained from Federal and State government sources.

The Social Security Administration provided information on Medicare enrollees. The data on Armed Forces were made available by the Department of Defense. Births and deaths were obtained from each of the State vital statistics offices.

The U.S. Office of Education, individual State departments of education, Roman Catholic School systems throughout the country, and the Official Catholic Directory<sup>12</sup> were the major sources of the data on school enrollment. These statistics were augmented in selected States by enrollment data from Federally operated schools, Bureau of Indian Affairs schools, and Lutheran school systems.

Data on passenger automobile registration are published annually by the Bureau of Public Roads in Highway Statistics, and the number of individual income tax returns is published annually by the Internal Revenue Service in Statistics of Income, Individual Income Tax Returns. Annual work force data is published in the July issue of Area Trends in Employment and Unemployment, U.S. Department of Labor, Manpower Administration.

<sup>12</sup>Published annually by P.J. Kennedy and Sons, New York, N.Y.

Monthly data on the work force is available from the same source.

ROUNDING OF ESTIMATES

RELATED REPORTS

The following table shows related reports of population estimates for various areas of geography as published by the Bureau of the Census.

Estimates presented in the tables of this report have been rounded to the nearest thousand without being adjusted to group totals, which are independently rounded. Percentages are based on unrounded numbers.

Area	Type of population	Estimate date(s)	Report number Series P-25 <sup>1</sup>
United States.....	Age, sex, and race; components of change by race	1980 to 1973	919
States.....	Age	1973	918
States.....	Age	1971 and 1973	300
Metropolitan areas.....	Total	1971 and 1973	905, 917
Counties.....	Total	1971 and 1973	917
Counties in selected States.....	Total with components of change	1973 and 1973	P-26 nos. 49—

<sup>1</sup>County population estimates for individual States are published under the auspices of the Federal-State Cooperative Program for population estimates in Series P-26.

Table 1. PROVISIONAL ESTIMATES OF THE RESIDENT POPULATION OF STATES, JULY 1, 1973, AND COMPONENTS OF POPULATION CHANGE SINCE APRIL 1, 1970

Region, division, and State	July 1, 1973 (provisional)	April 1, 1970 (census)	Change, 1970 to 1973		Components of change			
			Number	Percent	Births	Deaths	Net migration	Rate <sup>2</sup>
United States.....	209,081,000	202,924,000	6,157,000	3.0	11,100,000	4,943,000	1,731,000	0.9
REGION:								
Northwest.....	49,079,000	48,040,000	1,039,000	2.2	2,000,000	961,000	-100,000	-0.2
North Central.....	57,000,000	56,977,000	23,000	0.0	2,000,000	1,771,000	-200,000	-0.4
South.....	90,000,000	88,708,000	1,292,000	1.4	2,700,000	1,408,000	1,292,000	1.4
West.....	12,902,000	12,866,000	36,000	0.3	1,000,000	964,000	36,000	0.3
SOUTHEAST:								
New England.....	12,181,000	11,947,000	234,000	2.0	200,000	67,000	133,000	1.1
Middle Atlantic.....	17,000,000	17,000,000	0	0.0	1,000,000	1,000,000	0	0.0
NORTH CENTRAL:								
East North Central.....	40,000,000	40,000,000	0	0.0	2,000,000	1,900,000	100,000	0.2
West North Central.....	17,000,000	17,000,000	0	0.0	1,000,000	900,000	100,000	0.6
SOUTH:								
South Atlantic.....	12,000,000	12,000,000	0	0.0	1,000,000	900,000	100,000	0.8
East South Central.....	12,000,000	12,000,000	0	0.0	1,000,000	900,000	100,000	0.8
West South Central.....	12,000,000	12,000,000	0	0.0	1,000,000	900,000	100,000	0.8
WEST:								
Mountain.....	9,000,000	9,000,000	0	0.0	1,000,000	900,000	100,000	0.8
Pacific.....	17,000,000	17,000,000	0	0.0	1,000,000	900,000	100,000	0.8
NEW ENGLAND:								
Massachusetts.....	2,000,000	2,000,000	0	0.0	100,000	90,000	10,000	0.5
New Hampshire.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Vermont.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
New Brunswick.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Maine.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Connecticut.....	2,000,000	2,000,000	0	0.0	100,000	90,000	10,000	0.5
MIDDLE ATLANTIC:								
New York.....	18,000,000	18,000,000	0	0.0	1,000,000	900,000	100,000	0.8
New Jersey.....	7,000,000	7,000,000	0	0.0	400,000	300,000	100,000	0.8
Pennsylvania.....	11,000,000	11,000,000	0	0.0	600,000	500,000	100,000	0.8
EAST NORTH CENTRAL:								
Ohio.....	10,000,000	10,000,000	0	0.0	600,000	500,000	100,000	0.8
Indiana.....	5,000,000	5,000,000	0	0.0	300,000	200,000	100,000	0.8
Illinois.....	11,000,000	11,000,000	0	0.0	600,000	500,000	100,000	0.8
Michigan.....	8,000,000	8,000,000	0	0.0	400,000	300,000	100,000	0.8
Wisconsin.....	4,000,000	4,000,000	0	0.0	200,000	100,000	100,000	0.8
WEST NORTH CENTRAL:								
Minnesota.....	3,000,000	3,000,000	0	0.0	150,000	100,000	50,000	0.5
Iowa.....	2,000,000	2,000,000	0	0.0	100,000	70,000	30,000	0.5
Missouri.....	4,000,000	4,000,000	0	0.0	200,000	150,000	50,000	0.5
North Dakota.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
South Dakota.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
Nebraska.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Kansas.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
NORTH ATLANTIC:								
Delaware.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
Maryland.....	4,000,000	4,000,000	0	0.0	200,000	150,000	50,000	0.5
District of Columbia.....	700,000	700,000	0	0.0	35,000	25,000	10,000	0.5
Virginia.....	4,000,000	4,000,000	0	0.0	200,000	150,000	50,000	0.5
West Virginia.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
North Carolina.....	5,000,000	5,000,000	0	0.0	250,000	200,000	50,000	0.5
South Carolina.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Georgia.....	4,000,000	4,000,000	0	0.0	200,000	150,000	50,000	0.5
Florida.....	7,000,000	7,000,000	0	0.0	350,000	250,000	100,000	0.5
EAST SOUTH CENTRAL:								
Tennessee.....	3,000,000	3,000,000	0	0.0	150,000	100,000	50,000	0.5
Alabama.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Mississippi.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
WEST SOUTH CENTRAL:								
Arkansas.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Louisiana.....	3,000,000	3,000,000	0	0.0	150,000	100,000	50,000	0.5
Oklahoma.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Texas.....	11,000,000	11,000,000	0	0.0	550,000	400,000	150,000	0.5
MOUNTAIN:								
Montana.....	700,000	700,000	0	0.0	35,000	25,000	10,000	0.5
Idaho.....	700,000	700,000	0	0.0	35,000	25,000	10,000	0.5
Wyoming.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
Colorado.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
New Mexico.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Arizona.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Utah.....	1,000,000	1,000,000	0	0.0	50,000	40,000	10,000	0.5
Nevada.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
PACIFIC:								
Washington.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
Oregon.....	2,000,000	2,000,000	0	0.0	100,000	80,000	20,000	0.5
California.....	18,000,000	18,000,000	0	0.0	900,000	700,000	200,000	0.5
Alaska.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5
Hawaii.....	500,000	500,000	0	0.0	25,000	20,000	5,000	0.5

<sup>1</sup> Less than 0.05 percent. <sup>2</sup> Percent of April 1, 1970 population.



Table 2. PROVISIONAL ESTIMATES OF THE CIVILIAN POPULATION OF STATES, JULY 1, 1973, AND COMPONENTS OF POPULATION CHANGE SINCE APRIL 1, 1970

Region, division, and State	July 1, 1970 (provisional)	April 1, 1970 (census)	Change, 1970 to 1973		Components of change					
			Number	Percent	Births	Civilian deaths	Net migration from Armed Forces to civilian population	Net civilian migration		Total
								Number	Rate <sup>1</sup>	
United States.....	200,000,000	201,000,000	1,000,000	0.5	11,100,000	8,000,000	900,000	1,000,000		0.5
<b>REGIONAL:</b>										
Northeast.....	48,881,000	49,047,000	166,000	0.3	2,000,000	1,617,000	383,000	-348,000	-0.7	
North Central.....	27,428,000	27,500,000	72,000	0.3	1,000,000	772,000	228,000	20,000	-0.2	
South.....	20,145,000	21,721,000	1,576,000	7.8	2,700,000	1,000,000	1,700,000	1,500,000	7.5	
West.....	10,306,000	10,826,000	520,000	5.0	1,400,000	847,000	553,000	701,000	6.8	
<b>MIDWEST:</b>										
New England.....	12,089,000	11,780,000	-309,000	-2.5	1,000,000	1,309,000	309,000	30,000	0.4	
Middle Atlantic.....	27,483,000	27,607,000	124,000	0.5	1,810,000	1,686,000	124,000	-304,000	-1.1	
<b>SOUTH CENTRAL:</b>										
East North Central.....	40,822,000	40,152,000	-670,000	-1.7	2,244,000	1,922,000	322,000	-327,000	-0.8	
West North Central.....	18,811,000	18,814,000	300,000	1.6	1,000,000	700,000	300,000	300,000	1.6	
<b>SOUTH:</b>										
South Atlantic.....	21,000,000	20,000,000	-1,000,000	-4.8	1,700,000	2,700,000	1,000,000	1,000,000	4.8	
East South Central.....	12,100,000	12,000,000	-100,000	-0.8	1,000,000	1,100,000	100,000	100,000	0.8	
West South Central.....	20,000,000	19,000,000	-1,000,000	-5.0	1,500,000	2,500,000	1,000,000	1,000,000	5.0	
<b>WEST:</b>										
Mountain.....	9,000,000	9,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
Pacific.....	20,000,000	20,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
<b>NEW ENGLAND:</b>										
Maine.....	1,015,000	1,000,000	-15,000	-1.5	50,000	65,000	15,000	15,000	1.5	
New Hampshire.....	700,000	700,000	0	0.0	30,000	30,000	0	0	0.0	
Vermont.....	400,000	400,000	0	0.0	20,000	20,000	0	0	0.0	
Massachusetts.....	2,700,000	2,700,000	0	0.0	100,000	100,000	0	0	0.0	
Rhode Island.....	800,000	800,000	0	0.0	30,000	30,000	0	0	0.0	
Connecticut.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
<b>MIDDLE ATLANTIC:</b>										
New York.....	18,000,000	18,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
New Jersey.....	7,000,000	7,000,000	0	0.0	300,000	300,000	0	0	0.0	
Pennsylvania.....	11,000,000	11,000,000	0	0.0	500,000	500,000	0	0	0.0	
<b>EAST NORTH CENTRAL:</b>										
Ohio.....	10,710,000	10,710,000	0	0.0	500,000	500,000	0	0	0.0	
Indiana.....	5,000,000	5,000,000	0	0.0	200,000	200,000	0	0	0.0	
Illinois.....	11,000,000	11,000,000	0	0.0	600,000	600,000	0	0	0.0	
Michigan.....	9,000,000	9,000,000	0	0.0	400,000	400,000	0	0	0.0	
Wisconsin.....	4,000,000	4,000,000	0	0.0	150,000	150,000	0	0	0.0	
<b>WEST NORTH CENTRAL:</b>										
Minnesota.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Iowa.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Missouri.....	4,000,000	4,000,000	0	0.0	200,000	200,000	0	0	0.0	
North Dakota.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
South Dakota.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Nebraska.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Kansas.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
<b>SOUTH ATLANTIC:</b>										
Alabama.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Georgia.....	4,000,000	4,000,000	0	0.0	150,000	150,000	0	0	0.0	
Florida.....	7,000,000	7,000,000	0	0.0	300,000	300,000	0	0	0.0	
<b>EAST SOUTH CENTRAL:</b>										
Arkansas.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Louisiana.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Mississippi.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Tennessee.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
<b>WEST SOUTH CENTRAL:</b>										
Texas.....	11,000,000	11,000,000	0	0.0	500,000	500,000	0	0	0.0	
Oklahoma.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
New Mexico.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
<b>REGIONAL:</b>										
Northeast.....	48,881,000	49,047,000	166,000	0.3	2,000,000	1,617,000	383,000	-348,000	-0.7	
Midwest.....	79,000,000	79,000,000	0	0.0	3,000,000	3,000,000	0	0	0.0	
South.....	60,000,000	60,000,000	0	0.0	2,000,000	2,000,000	0	0	0.0	
West.....	20,000,000	20,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
<b>STATE:</b>										
Alabama.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Arizona.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Arkansas.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
California.....	20,000,000	20,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
Colorado.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Connecticut.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Delaware.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Florida.....	7,000,000	7,000,000	0	0.0	300,000	300,000	0	0	0.0	
Georgia.....	4,000,000	4,000,000	0	0.0	150,000	150,000	0	0	0.0	
Hawaii.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Idaho.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Illinois.....	11,000,000	11,000,000	0	0.0	600,000	600,000	0	0	0.0	
Indiana.....	5,000,000	5,000,000	0	0.0	200,000	200,000	0	0	0.0	
Iowa.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Kansas.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Kentucky.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Louisiana.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Maine.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Maryland.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Massachusetts.....	2,700,000	2,700,000	0	0.0	100,000	100,000	0	0	0.0	
Michigan.....	9,000,000	9,000,000	0	0.0	400,000	400,000	0	0	0.0	
Minnesota.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Mississippi.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Missouri.....	4,000,000	4,000,000	0	0.0	200,000	200,000	0	0	0.0	
Montana.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Nebraska.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Nevada.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
New Hampshire.....	700,000	700,000	0	0.0	30,000	30,000	0	0	0.0	
New Jersey.....	7,000,000	7,000,000	0	0.0	300,000	300,000	0	0	0.0	
New Mexico.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
New York.....	18,000,000	18,000,000	0	0.0	1,000,000	1,000,000	0	0	0.0	
North Carolina.....	5,000,000	5,000,000	0	0.0	200,000	200,000	0	0	0.0	
North Dakota.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Ohio.....	10,710,000	10,710,000	0	0.0	500,000	500,000	0	0	0.0	
Oklahoma.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Oregon.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Pennsylvania.....	11,000,000	11,000,000	0	0.0	500,000	500,000	0	0	0.0	
Rhode Island.....	800,000	800,000	0	0.0	30,000	30,000	0	0	0.0	
South Carolina.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
South Dakota.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Tennessee.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
Texas.....	11,000,000	11,000,000	0	0.0	500,000	500,000	0	0	0.0	
Utah.....	1,000,000	1,000,000	0	0.0	40,000	40,000	0	0	0.0	
Vermont.....	400,000	400,000	0	0.0	20,000	20,000	0	0	0.0	
Virginia.....	3,000,000	3,000,000	0	0.0	100,000	100,000	0	0	0.0	
Washington.....	2,000,000	2,000,000	0	0.0	80,000	80,000	0	0	0.0	
West Virginia.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	
Wisconsin.....	4,000,000	4,000,000	0	0.0	200,000	200,000	0	0	0.0	
Wyoming.....	500,000	500,000	0	0.0	20,000	20,000	0	0	0.0	

1 Less than 0.05 percent.

<sup>2</sup> Percent of April 1, 1970 civilian population.

Table 3. ANNUAL ESTIMATES OF THE POPULATION OF STATES: 1970 TO 1973 (In thousands)

Region, division, and State	Res
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**Table 4. AVERAGE ANNUAL RATES OF POPULATION CHANGE BY COMPONENT: SELECTED PERIODS 1940 TO 1973**

(All rates expressed per 1,000 initial population)

Region, division, and State	Net change <sup>1</sup>				Natural increase				Net migration			
	1970 to 1973	1960 to 1970	1950 to 1960	1940 to 1950	1970 to 1973	1960 to 1970	1950 to 1960	1940 to 1950	1970 to 1973	1960 to 1970	1950 to 1960	1940 to 1950
United States.....	9.9	12.9	17.9	22.9	7.3	11.9	16.9	21.9	2.6	1.7	1.7	1.9
<b>REGION:</b>												
Northwest.....	2.9	9.9	15.4	21.9	4.9	9.9	11.9	16.9	-1.9	9.7	9.9	9.9
North Central.....	8.9	9.9	14.9	19.9	7.1	10.9	15.9	20.9	-1.9	-1.9	-1.9	-1.9
South.....	12.9	12.9	16.9	20.9	9.9	14.9	17.9	22.9	9.9	1.1	-1.9	-1.9
West.....	18.1	21.9	25.9	29.9	9.7	12.9	16.9	20.9	9.9	9.7	17.4	20.9
<b>NORTHEAST:</b>												
New England.....	7.9	12.9	18.1	23.1	5.9	9.1	11.9	16.9	2.9	2.9	6.9	1.9
Middle Atlantic.....	2.7	8.9	12.9	16.9	4.7	8.4	11.9	15.9	-2.1	(1)	1.9	9.9
<b>SOUTH CENTRAL:</b>												
East South Central.....	4.9	10.9	17.9	23.9	7.9	10.9	16.9	21.9	-2.9	-2.9	2.9	2.9
West South Central.....	7.9	8.9	9.1	9.9	9.9	9.9	10.9	11.9	1.9	-4.9	-4.1	-7.9
<b>SOUTH:</b>												
South Atlantic.....	17.4	18.9	20.4	21.9	7.9	12.9	17.9	22.9	9.9	9.9	9.9	9.4
East South Central.....	11.4	8.1	4.9	9.9	8.9	11.4	16.4	21.4	3.1	-6.9	-12.7	-12.7
West South Central.....	14.9	12.1	15.4	18.7	9.9	12.9	16.7	20.9	4.9	-6.1	-4.1	-7.9
<b>WEST:</b>												
Mountain.....	20.9	18.9	20.1	20.1	11.7	16.9	21.9	26.9	12.9	4.4	10.9	9.9
Pacific.....	10.9	22.4	25.9	29.9	7.9	12.9	17.9	22.9	9.4	11.9	16.7	20.9
<b>NEW ENGLAND:</b>												
Maine.....	10.9	9.9	9.9	7.4	6.9	9.9	12.9	16.4	4.7	-7.4	-7.9	-2.9
New Hampshire.....	21.4	18.9	15.9	9.1	7.1	9.7	11.9	14.9	14.9	14.9	9.9	(1)
Vermont.....	12.9	12.9	9.1	9.9	7.9	9.9	12.7	16.1	9.9	9.9	-10.9	-6.4
New Brunswick.....	9.9	10.9	9.9	9.9	9.9	9.7	11.9	14.9	9.9	9.9	-10.9	-6.4
Quebec Island.....	7.9	10.9	9.1	10.4	9.9	9.7	11.9	14.9	9.1	9.9	-10.9	-6.4
Connecticut.....	4.4	17.9	20.4	23.1	9.9	10.9	12.7	16.9	-1.4	9.1	11.9	9.4
<b>MIDDLE ATLANTIC:</b>												
New York.....	9.4	9.9	12.4	15.9	9.9	9.9	11.1	14.7	-4.9	-6.9	1.4	9.9
New Jersey.....	9.9	16.7	20.7	23.9	9.4	9.9	12.7	16.7	9.7	9.7	11.9	9.9
Pennsylvania.....	2.9	4.1	7.9	9.9	4.9	7.9	11.9	15.9	-1.9	-2.4	-4.9	-6.9
<b>EAST NORTH CENTRAL:</b>												
Ohio.....	2.9	9.9	15.9	21.9	7.9	10.9	16.7	22.9	-4.4	-1.9	9.9	9.9
Indiana.....	7.9	10.9	17.9	23.9	9.9	11.1	12.7	15.1	-1.1	-6.9	1.9	9.9
Illinois.....	2.4	9.9	14.9	20.9	9.9	10.9	12.4	14.9	-3.7	-6.4	1.4	9.9
Michigan.....	9.9	12.9	16.9	20.9	10.9	12.9	16.9	20.9	-1.1	9.9	9.4	9.9
Wisconsin.....	10.4	11.9	14.9	17.9	9.9	11.9	14.9	17.9	6.1	6.1	-1.9	-6.7
<b>WEST NORTH CENTRAL:</b>												
Minnesota.....	7.9	10.9	13.9	16.9	9.9	11.9	14.9	17.9	9.4	-6.7	-6.4	-6.9
Iowa.....	9.9	9.4	9.1	9.9	9.9	9.7	10.9	12.9	-6.9	-6.9	-6.9	-6.9
Missouri.....	9.9	9.9	9.9	9.4	9.1	7.9	11.9	15.1	9.1	(1)	-2.9	-6.9
North Dakota.....	10.7	-9.4	9.1	-9.9	7.9	11.9	15.1	18.9	9.9	-10.1	-10.9	-10.9
South Dakota.....	9.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9
Nebraska.....	11.9	9.9	9.9	9.7	9.1	9.9	10.9	12.9	9.9	-6.9	-6.9	-10.9
Kansas.....	4.1	9.9	12.4	15.9	9.9	9.9	12.4	15.9	-1.9	-4.9	-4.9	-4.9
<b>SOUTH ATLANTIC:</b>												
Delaware.....	12.9	20.9	23.9	27.7	9.9	12.4	16.9	21.9	7.9	9.9	10.1	7.9
Maryland.....	11.4	20.9	23.9	27.7	7.9	12.9	17.1	21.9	9.9	11.7	12.9	12.9
District of Columbia.....	-4.4	-1.9	-6.1	-10.9	6.1	11.9	16.9	21.9	-10.7	-10.9	-10.9	7.1
Virginia.....	10.9	18.9	21.9	25.1	9.4	12.9	17.9	22.9	9.9	9.9	9.9	4.1
West Virginia.....	9.9	-6.9	-7.9	9.9	9.9	7.7	10.9	14.9	9.9	-10.9	-10.9	-12.9
North Carolina.....	11.4	16.9	19.9	22.9	9.1	12.9	16.4	20.9	9.9	-6.9	-6.4	-7.9
South Carolina.....	12.7	9.4	11.9	14.9	10.9	14.9	18.9	22.9	9.9	-11.1	-11.1	-12.9
Georgia.....	12.9	12.9	12.9	9.9	10.4	14.1	18.9	22.9	9.9	9.9	-6.9	-6.9
Florida.....	27.9	21.9	20.1	17.9	4.9	9.9	12.9	16.9	12.9	12.7	12.9	12.4
<b>EAST SOUTH CENTRAL:</b>												
Kentucky.....	11.9	9.9	9.1	9.4	7.4	10.4	12.9	16.1	4.9	-9.9	-10.9	-12.9
Tennessee.....	10.4	9.9	9.9	12.1	7.9	10.7	12.9	16.4	9.1	-1.9	-6.7	-6.9
Alabama.....	9.4	9.9	9.9	7.9	9.7	11.9	14.9	17.9	10.4	9.9	-12.9	-12.9
Mississippi.....	9.7	1.9	(1)	-6.9	10.9	12.1	16.1	19.9	-1.9	-12.9	-10.9	-10.1
<b>WEST SOUTH CENTRAL:</b>												
Arkansas.....	17.9	7.4	-6.7	-2.1	9.9	11.9	14.9	17.9	11.9	-4.1	-10.7	-10.9
Louisiana.....	10.9	11.9	10.4	10.9	12.1	14.7	16.9	19.9	-6.1	-1.9	-1.9	-6.9
Oklahoma.....	12.9	9.9	4.1	-4.7	9.4	9.9	12.9	16.9	9.7	9.9	-10.9	-10.9
Texas.....	16.9	12.9	11.7	10.4	11.9	14.9	17.9	20.9	9.1	1.9	1.9	1.1
<b>NEW ENGLAND:</b>												
Maine.....	11.9	9.9	12.9	15.9	7.9	10.9	13.9	16.9	9.1	-6.9	-	

APPENDIX

Table A-1. COMPARISON OF PERCENT DEVIATIONS FROM 1970 AND 1980 CENSUS BY SELECTED METHODS

Division and State	Component Method II			Ratio-comparison			Average of methods		
	Ratio-comparison	Standard procedure		Ratio-comparison	Standard procedure		Ratio-comparison	Standard procedure	
		1970	1980		1970	1980		1970	1980
<b>NEW ENGLAND:</b>									
Maine.....	-2.49	-0.96	0.12	-1.59	-0.99	-1.12	-1.85	-0.93	-0.53
New Hampshire.....	-1.44	-0.99	0.33	-0.52	-0.94	-0.94	-1.99	-1.44	0.44
Vermont.....	0.52	-0.36	-0.91	0.55	-0.22	-0.12	0.56	-0.55	-0.94
Massachusetts.....	-3.07	-2.67	-0.18	-3.89	-2.43	3.01	-2.13	-1.34	0.92
Rhode Island.....	1.99	0.70	-0.75	2.05	-1.06	0.99	3.42	-0.16	0.92
Connecticut.....	-1.99	-0.99	-0.55	2.12	-1.64	2.98	1.94	-0.21	0.52
<b>MIDDLE ATLANTIC:</b>									
New York.....	-1.09	2.21	-0.11	-1.43	1.17	0.60	-1.34	1.73	0.16
New Jersey.....	0.94	1.71	-1.94	1.48	-0.25	1.42	1.01	0.89	-0.99
Pennsylvania.....	-0.99	0.17	1.23	-0.12	-0.21	0.21	-0.59	-0.99	0.72
<b>EAST NORTH CENTRAL:</b>									
Ohio.....	1.22	0.94	2.99	2.12	1.99	-0.49	1.99	1.16	0.94
Indiana.....	-1.17	-1.94	-1.99	-1.12	-0.27	-0.22	-1.12	-0.99	-0.79
Illinois.....	-0.99	-0.99	0.62	1.49	0.99	1.21	-0.97	-0.94	1.22
Michigan.....	1.99	-0.99	2.47	0.99	-0.21	-0.12	0.99	-0.45	-0.94
Wisconsin.....	-2.12	-0.42	0.99	-0.99	-0.27	-1.99	-1.22	-0.27	0.74
<b>WEST NORTH CENTRAL:</b>									
Minnesota.....	-0.49	-0.97	0.21	1.22	-0.27	-2.99	0.99	-1.22	-0.92
Iowa.....	0.94	2.99	2.47	2.17	0.21	-0.47	2.99	1.12	-1.94
Nebraska.....	0.99	0.99	-0.29	-0.97	0.99	-1.22	0.99	0.99	-0.92
South Dakota.....	1.12	2.71	0.99	0.65	-2.99	-0.42	0.94	1.22	-1.99
North Dakota.....	0.61	1.42	0.12	-0.12	-1.99	-0.29	0.17	-0.99	0.99
Montana.....	1.99	-0.99	1.21	-0.12	-1.99	-1.45	0.99	-1.97	1.22
Wyoming.....	0.42	-1.17	-0.91	1.22	-1.99	-0.42	0.79	-1.12	-0.92
<b>SOUTH ATLANTIC:</b>									
Delaware.....	-0.94	-0.52	0.97	0.97	-1.22	-0.49	1.42	-0.94	-0.16
Maryland.....	-0.99	-0.99	-1.97	0.91	-0.94	0.99	0.92	-0.99	0.99
District of Columbia.....	0.99	-0.91	-1.97	-1.97	0.99	-1.94	-0.92	-1.99	-0.17
Virginia.....	0.94	1.91	0.94	0.14	0.19	-0.99	1.99	1.94	0.16
West Virginia.....	0.97	0.97	0.97	-1.97	2.97	-0.99	-1.22	0.21	1.99
North Carolina.....	0.22	2.27	1.99	-0.12	2.79	2.99	-0.94	0.94	1.99
South Carolina.....	0.99	2.99	0.99	-0.91	0.91	1.79	0.99	0.99	0.12
Georgia.....	-0.12	1.99	-1.91	-1.12	0.97	2.99	-0.79	2.79	0.42
Florida.....	-1.97	-0.71	-0.99	1.22	-0.99	19.12	0.91	-0.92	0.94
<b>EAST SOUTH CENTRAL:</b>									
Kentucky.....	-1.14	1.99	0.99	-0.99	0.99	-0.99	-1.97	1.94	0.99
Tennessee.....	0.91	1.99	-0.99	-0.99	0.99	-0.99	-1.99	0.45	-0.49
Alabama.....	0.94	0.94	0.99	-0.72	2.99	0.71	-0.92	2.77	0.49
Mississippi.....	0.21	0.22	0.22	-1.99	2.79	0.79	0.99	0.99	1.99
<b>WEST SOUTH CENTRAL:</b>									
Arkansas.....	0.71	0.94	-0.91	-1.99	0.99	0.99	-0.12	0.99	0.42
Louisiana.....	0.99	0.97	-0.99	-1.79	0.99	0.77	0.99	2.99	-0.91
Oklahoma.....	0.99	2.12	0.99	-0.12	1.99	-0.77	-0.79	0.99	-0.12
Texas.....	2.97	2.92	0.99	0.71	2.99	2.41	1.49	0.99	1.99
<b>NEWSPIN:</b>									
Nebraska.....	0.91	2.99	1.99	-0.92	-2.79	-0.94	-0.12	0.41	-0.99
Iowa.....	-0.99	0.12	1.42	-1.12	1.99	-0.92	-0.94	2.52	-0.49
Wyoming.....	1.47	-0.41	-0.99	-0.92	-1.99	-0.12	0.99	0.17	-1.79
Colorado.....	0.99	-1.97	-1.42	-0.97	-2.99	-0.99	-0.99	-0.42	-1.12
New Mexico.....	0.99	0.41	-0.77	-0.12	-1.91	-1.99	1.99	0.99	-0.99
Arizona.....	2.77	0.99	-0.99	-0.99	-0.99	-0.12	1.14	0.99	-0.99
Utah.....	0.94	0.79	1.99	-0.44	0.99	-0.91	-1.79	1.97	-1.12
Idaho.....	0.99	-0.99	2.54	0.99	-2.99	2.52	1.79	-0.99	0.99
<b>PACIFIC:</b>									
Washington.....	1.99	-0.94	-0.91	0.91	-0.92	-2.99	0.94	-1.92	-1.99
Oregon.....	0.99	0.99	0.99	2.17	-1.22	0.99	0.99	-0.12	0.44
California.....	0.99	-0.99	-1.12	2.77	-1.71	-0.42	0.41	-1.99	-2.79
Alaska.....	-1.99	-0.91	(*)	0.99	1.49	(*)	1.79	-0.99	(*)
Hawaii.....	-1.99	-0.92	(*)	0.99	0.42	(*)	1.99	0.99	(*)

\*Postcensal 1980 estimates were not made for Alaska and Hawaii.

Table A-2. COMPOSITION OF STANDARD FEDERAL REGIONS

Standard Federal region	State or outlying area
Region I.....	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
Region II.....	New York, New Jersey, Puerto Rico, Virgin Islands.
Region III.....	Pennsylvania, Delaware, Maryland, District of Columbia, Virginia, West Virginia.
Region IV.....	North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi.
Region V.....	Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota.
Region VI.....	Arkansas, Louisiana, Oklahoma, Texas, New Mexico.
Region VII.....	Nebraska, Kansas, Iowa, Missouri.
Region VIII.....	North Dakota, South Dakota, Montana, Utah, Wyoming, Colorado.
Region IX.....	Nevada, Arizona, California, Hawaii, Guam.
Region X.....	Alaska, Idaho, Washington, Oregon.



EXHIBIT 3

UNITED STATES DEPARTMENT OF COMMERCE  
Social and Economic Statistics Administration  
BUREAU OF THE CENSUS  
Washington, D.C. 20233

OFFICE OF THE DIRECTOR

May 21, 1975

Honorable Herman Badillo  
House of Representatives  
Washington, D. C. 20515

Dear Mr. Badillo:

This letter is a follow-up to the recent discussions between Mr. Zitter of my staff, and Paul Myer and other members of your staff, concerning the enumeration of illegal aliens in the decennial census. The discussion took place in the context of the possible impact by this group on the Voting Rights Act legislation currently in process.

The census is designed to include all persons living in the United States, as of the census date (April 1, 1970), except foreign citizens residing on the premises of an embassy, chancellery, etc. The term "living in the United States" also excludes persons or representatives of foreign governments temporarily visiting, or traveling in this country. In concept, therefore, foreign citizens who are "living" in the United States illegally should be included in the census count. In practice, of course, the inclusion of such persons ultimately depends upon the individual. Some illegal aliens are counted because they choose to do so. Other illegal aliens purposely avoid being enumerated. Obviously, any attempt to identify illegal aliens during the enumeration would not have been productive and could have created a public relations problem seriously damaging to the census as a whole. Given these circumstances, we cannot give you a clear-cut answer to the question as to whether the census data include illegal aliens and the possible number included in our count of the population. The best we can say is that an unknown number of illegal aliens are probably included in the count.

In the 1970 census, a question on citizenship status was asked of a 5-percent sample of the population. It is, therefore, possible for us in making determinations under the Voting Rights Act, which depends on 1970 census data, to provide the statistics for citizens only; however, since it is based only on a 5-percent sample, and therefore not available as a classifier for all census items, some estimation is involved in making the determinations. These should have only a marginal effect on the statistics and no impact on the actual determination. Since



the determination is based on citizenship, the number of illegal aliens in an area (regardless of whether we enumerated them or not) would have no impact on these computations.

Should you need any additional information along these lines we will be very glad to discuss this further with your staff.

Sincerely,

VINCENT P. BARABBA  
Director  
Bureau of the Census

POP:MZitter/DLevine:hc 5/20/75

cc: Commerce Congressional Affairs  
Congressional Liaison  
Mr. Ted Clemence  
Mr. Siegel  
Mr. Felton  
Mr. Zitter  
Pop. Div. Files



P+

EXHIBIT 4

May 23, 1975

Honorable Stephen J. Solarz  
House of Representatives  
Washington, D. C. 20515

Dear Mr. Solarz:

This is in response to Mr. Murwitz' letter of May 15, 1975, concerning your need for data to be used in the deliberations of the possible extension of the Voting Rights Act of 1965.

I am enclosing a listing of states showing the alien population as a percent of the voting age population for April 1, 1970.

In the 1970 census a question on naturalization was asked of all foreign-born persons who were included in the 5 percent sample of the population. Thus, information was secured on the number of foreign-born persons having their usual residence in the United States who were aliens. This group would include aliens working and attending school here except those living in an embassy. It would include illegal aliens to the extent that they reported themselves, were reported by a member of the household, or were listed by a census enumerator. Although the primary reason for conducting the census, as set forth in the Constitution, is to provide a basis for the apportionment of members of the House of Representatives among the several states, the Constitution does not specifically limit the population to be enumerated to citizens. According to subsequent legislation and long-standing practice, the census has attempted to include the entire population which has its usual residence in the United States. Since no one can provide a carefully developed estimate of the total number of illegal aliens in the United States or their geographic distribution, it is not possible to make a definite statement regarding the impact of the presence of illegal aliens in the voting participation rate.

We are now preparing a special computer printout which will provide the number of aliens of voting age in each county and for towns in the New England states. This information should be available within a week.

Should you have further questions, you may contact Gilbert R. Felton of my staff directly on 763-5072.

Sincerely,

LSI

VINCENT F. BARABBA  
Director  
Bureau of the Census

Enclosure

GF:ltan:pf 5/20/75

cc: Commerce Legislative Affairs, Cong. Liaison, J. Edgar Hoover, Felton.

ALIENS OF VOTING AGE AS A PERCENT OF THE POPULATION 18 YEARS AND OVER  
April 1, 1970

State	Total Population 18 years and over	Alien Population 18 years and over	Percent
United States	133,546,310	2,887,005	2.2
Alabama	2,209,873	5,927	0.3
Alaska	182,264	2,402	1.3
Arizona	1,127,616	24,353	2.2
Arkansas	1,267,796	2,643	0.2
California	13,313,733	687,129	5.2
Colorado	1,432,901	17,890	1.2
Connecticut	2,010,546	70,084	3.5
Delaware	350,930	4,261	1.2
District of Columbia	532,255	17,260	3.2
Florida	4,678,851	203,302	4.3
Georgia	2,944,284	11,635	0.4
Hawaii	494,719	37,677	7.6
Idaho	449,392	4,154	0.9
Illinois	7,316,430	177,452	2.4
Indiana	3,352,468	23,803	0.7
Iowa	1,849,371	8,246	0.4
Kansas	1,501,356	8,818	0.6
Kentucky	2,104,325	5,155	0.2
Louisiana	2,253,877	14,048	0.6
Maine	649,629	12,613	1.9
Maryland	2,540,332	42,518	1.7
Massachusetts	3,812,357	122,875	3.2
Michigan	5,622,119	105,396	1.9
Minnesota	2,422,906	18,917	0.8
Mississippi	1,372,523	3,133	0.2
Missouri	3,123,156	17,373	0.6
Montana	441,150	2,761	0.6
Nebraska	975,727	5,862	0.6
Nevada	318,514	6,745	2.1
New Hampshire	483,344	10,129	2.1
New Jersey	4,782,021	165,466	3.5
New Mexico	609,584	7,927	1.3
New York	12,395,363	545,518	4.4
North Carolina	3,322,039	11,371	0.3
North Dakota	391,317	1,798	0.5
Ohio	6,911,877	75,536	1.1
Oklahoma	1,722,097	7,630	0.4
Oregon	1,393,305	17,825	1.3
Pennsylvania	7,943,746	85,654	1.1
Rhode Island	648,499	16,268	2.5
South Carolina	1,634,824	6,236	0.4
South Dakota	425,082	851	0.2
Tennessee	2,597,447	8,510	0.3
Texas	7,194,947	140,657	2.0
Utah	635,186	10,043	1.6
Vermont	287,745	5,568	1.9
Virginia	3,058,422	27,550	0.9
Washington	2,248,763	46,275	2.1
West Virginia	1,163,686	4,087	0.4
Wisconsin	2,833,283	25,865	0.9
Wyoming	212,333	1,809	0.9

EXHIBIT 5

W/5

Honorable John V. Tunney  
Chairman, Subcommittee on  
Constitutional Rights  
Committee on the Judiciary  
United States Senate  
Washington, D. C. 20510

Dear Mr. Chairman:

This is in response to a telephone request from Ben Dixon of your staff concerning your need for data relating to the possible extension of various provisions of the Voting Rights Act of 1965. Mr. Dixon requested information regarding the impact of aliens of voting age on voting participation rates for each Presidential election year, 1964 to 1972.

We have provided two tables showing:

1. For those jurisdictions covered by the 1970 Amendment to the Voting Rights Act of 1965, the percent of the citizen population voting in the Presidential election of 1968. Those covered areas which exceed 50 percent based on citizens of voting age are coded (g).
2. For November 1972, a listing of subdivisions with less than 50 percent voting based on the total voting age population and the citizen voting age population, and the actual percent voting. In those cases where the percent based on citizens exceeded 50 percent, the absolute value was suppressed and coded (g).

Unfortunately, similar data are not available for 1964 since our records are incomplete for that period.

I should emphasize that in the 1970 census a question on citizenship status was asked only of a 5-percent sample of the population, thus the figures are subject to sampling variability. For very small political subdivisions these sampling errors will and can affect the estimated level of citizen voter participation. For the few small jurisdictions in which the citizenship factor changes the voting rate significantly, we cannot say with certainty that they have exceeded the 50-percent mark until we have further evaluated the impact of sampling errors. The figures should be useful, however, in your deliberations on the possible extension of the Voting Rights Act.

2

If we can be of further assistance please contact Gilbert R. Felton of my staff directly on 763-5072.

Sincerely,

(s) Vincent P. Barabba

VINCENT P. BARABBA  
Director  
Bureau of the Census

Enclosures

cc: Commerce Congressional Affairs

GRFelton:saf 6/11/75

cc: Congressional Liaison  
Mr. Zitter  
Mr. Starsinic  
Mr. Felton  
Pop Div File  
Chron

UNITED STATES DEPARTMENT OF  
**COMMERCE**  
**NEWS**  
WASHINGTON, D.C. 20230

EXHIBIT 6

CENSUS

Public Information Office      For Release Thursday, September 4, 1975  
(301) 763-7273                      CB75-196

**CENSUS BUREAU LISTS STATES AND POLITICAL SUBDIVISIONS  
WHERE SPECIAL ASSISTANCE FOR MINORITY VOTERS  
WILL BE REQUIRED IN FALL ELECTIONS**

The Census Bureau today identified five States, 224 counties, and 1 city which fall under the 1975 amendments to the Voting Rights Act, requiring these areas to provide special assistance in future elections to minority voters.

The list represents a first determination of which jurisdictions, among those announced by the Justice Department on August 28, fall under the law. Others will be determined in the near future.

The 1975 amendments to the act require special assistance to minority voters under the following conditions:

--Under Title II, where the Census Bureau determines that more than 5 percent of the citizens of voting age are members of a single-language minority; where less than 50 percent of the citizens of voting age cast ballots in the Presidential election of 1972; and also where the Attorney General determines that the counties conducted elections only in the English language in November 1972.

--Under Title III, where the Census Bureau determines that more than 5 percent of the citizens of voting age belong to a single-language minority and where the illiteracy rate is higher than the national average (4.6 percent).

Among language minorities covered are: Spanish heritage, Japanese, Chinese, Filipinos, Koreans, and American Indians; and in Alaska, native Alaskans (Eskimos and Aleuts) and American Indians. Illiteracy means the percentage of the citizen population 18 years and over with less than five years of schooling. Special assistance required under the act includes furnishing bi-lingual election materials and special monitors at polling places.

The act also specifies that the Census Bureau will make the statistical determinations of responsibility. In doing so, the Bureau used sample data from the 1970 Census of Population, the percentage of those casting ballots in 1972 from official voting records, and independent estimates of the voting age population of citizens for November 1972.

The list released today includes jurisdictions which could be determined at this time within 16 States with elections this fall. The status of other States and subdivisions will be announced according to the following schedule:

1. Jurisdictions in 32 other States where the requirements of the act can be readily determined but where no fall elections are scheduled.
2. Jurisdictions in the 16 States having fall elections but where the determination requires additional tabulation and further review of the data.
3. Jurisdictions in the other States where no elections are scheduled this fall and where additional tabulation and data review are required.

In addition, a separate listing will be prepared on the status of Michigan and Wisconsin where special determinations must be made for very small jurisdictions.

The list of States and subdivisions and the relevant language minorities released today is attached. The Attorney General has not yet made a final determination under Title II.

-X-



States or Political Subdivisions Covered Under 1975

Amendment to Voting Rights Act of 1965

State or Political Subdivision	Title II 1/	Title III 2/
Alaska (Statewide)	Native Alaskans	Native Alaskans
Arizona (Statewide)	Spanish	Spanish
Apache County	American Indian	American Indian
Cochise County		Spanish
Coconino County	American Indian	American Indian, Spanish
Gila County		American Indian, Spanish
Graham County		Spanish
Greenlee County		Spanish
Maricopa County		Spanish
Navajo County	American Indian	American Indian, Spanish
Pima County		Spanish
Pinal County	American Indian	American Indian, Spanish
Santa Cruz County		Spanish
Yuma County		Spanish
California (Statewide)		Spanish
Alameda County		Spanish
Colusa County		Spanish
Fresno County		Spanish
Imperial County		Spanish
Inyo County		American Indian
Kern County		Spanish
Kings County	Spanish	Spanish
Los Angeles County		Spanish
Madera County		Spanish
Merced County	Spanish	Spanish
Monterey County		Spanish
Orange County		Spanish
Riverside County		Spanish
Sacramento County		Spanish
San Benito County		Spanish
San Bernardino County		Spanish
San Diego County		Spanish
San Francisco County		Spanish, Chinese
San Joaquin County		Spanish
San Luis Obispo County		Spanish
San Mateo County		Spanish
Santa Barbara County		Spanish
Santa Clara County		Spanish
Stanislaus County		Spanish
Tulare County		Spanish
Tuolumne County		Spanish
Ventura County		Spanish
Yolo County		Spanish
Colorado (Statewide)		Spanish
Adams County		Spanish
Alamosa County		Spanish
Archuleta County		Spanish
Bent County		Spanish
Conejos County		Spanish
Costilla County		Spanish
Crowley County		Spanish
Denver County		Spanish
Eagle County		Spanish
El Paso County	Spanish	Spanish
Fremont County		Spanish
Huerfano County		Spanish
Jackson County		Spanish
Lake County		Spanish
La Plata County		Spanish
Las Animas County		Spanish

2.

State or Political Subdivision	Title II 1/	Title III 2/
Colo. Mesa County		Spanish
Montezuma County		Spanish
Montrose County		Spanish
Morgan County		Spanish
Otero County		Spanish
Prowers County		Spanish
Pueblo County		Spanish
Rio Grande County		Spanish
Saguache County		Spanish
San Juan County		Spanish
Weld County		Spanish
Connecticut Bridgeport		Spanish
Florida Dade County		Spanish
Hardee County	Spanish	Spanish
Hillsborough County	Spanish	Spanish
Monroe County	Spanish	Spanish
Louisiana St. Bernard Parish		Spanish
Minnesota Beltrami County		American Indian
Cass County		American Indian
Mahnomen County		American Indian
Mississippi Neshoba County		American Indian
New York Bronx County	Spanish	Spanish
Kings County	Spanish	Spanish
New York County		Spanish
North Carolina Hoke County	American Indian	American Indian
Jackson County	American Indian	American Indian
Robeson County	American Indian	American Indian
Swain County		American Indian
Oregon Jefferson County		American Indian
Malheur County		Spanish
Texas (Statewide)	Spanish	Spanish
Andrews County		Spanish
Aransas County		Spanish
Atascosa County		Spanish
Bailey County		Spanish
Bastrop County		Spanish
Bee County		Spanish
Bell County		Spanish
Bexar County		Spanish
Blanco County		Spanish
Borden County		Spanish
Brasoria County		Spanish
Brazos County		Spanish
Brewster County		Spanish
Briscoe County		Spanish
Brooks County		Spanish
Burleson County		Spanish
Caldwell County		Spanish

3.

State or Political Subdivision	Title II 1/	Title III 2/
Tex. Calhoun County		Spanish
Cameron County		Spanish
Castro County		Spanish
Cochran County		Spanish
Coke County		Spanish
Colorado County		Spanish
Comal County		Spanish
Concho County		Spanish
Cottle County		Spanish
Crockett County		Spanish
Crosby County		Spanish
Culberson County		Spanish
Dallam County		Spanish
Dawson County		Spanish
Deaf Smith County		Spanish
De Witt County		Spanish
Dimmit County		Spanish
Duval County		Spanish
Ector County		Spanish
Edwards County		Spanish
Ellis County		Spanish
El Paso County		Spanish
Falls County		Spanish
Fisher County		Spanish
Floyd County		Spanish
Foard County		Spanish
Fort Bend County		Spanish
Frio County		Spanish
Gaines County		Spanish
Galveston County		Spanish
Garza County		Spanish
Glasscock County		Spanish
Goliad County		Spanish
Gonzales County		Spanish
Grimes County		Spanish
Guadalupe County		Spanish
Hale County		Spanish
Hansford County		Spanish
Harris County		Spanish
Haskell County		Spanish
Hays County		Spanish
Hidalgo County		Spanish
Hockley County		Spanish
Howard County		Spanish
Hudspeth County		Spanish
Jackson County		Spanish
Jeff Davis County		Spanish
Jim Hogg County		Spanish
Jim Wells County		Spanish
Jones County		Spanish
Karnes County		Spanish
Kendall County		Spanish
Kenedy County		Spanish
Kerr County		Spanish
Kimble County		Spanish
Kinney County		Spanish
Kleberg County		Spanish
Lamb County		Spanish
Lampasas County		Spanish
La Salle County		Spanish
Live Oak County		Spanish
Lubbock County		Spanish
Lynn County		Spanish

4.

State or Political Subdivision	Title II 1/	Title III 2/
Tex. McCulloch County		Spanish
McHallen County		Spanish
Martin County		Spanish
Mason County		Spanish
Matagorda County		Spanish
Maverick County		Spanish
Medina County		Spanish
Menard County		Spanish
Midland County		Spanish
Milam County		Spanish
Mitchell County		Spanish
Molan County		Spanish
Nueces County		Spanish
Palmer County		Spanish
Pecos County		Spanish
Presidio County		Spanish
Real County		Spanish
Reeves County		Spanish
Refugio County		Spanish
Robertson County		Spanish
Russell County		Spanish
San Patricio County		Spanish
San Saba County		Spanish
Schleicher County		Spanish
Scurry County		Spanish
Sherman County		Spanish
Starr County		Spanish
Sterling County		Spanish
Sutton County		Spanish
Swisher County		Spanish
Taylor County		Spanish
Terrell County		Spanish
Terry County		Spanish
Tom Green County		Spanish
Travis County		Spanish
Upton County		Spanish
Uvalde County		Spanish
Val Verde County		Spanish
Victoria County		Spanish
Ward County		Spanish
Wabb County		Spanish
Wharton County		Spanish
Willacy County		Spanish
Williamson County		Spanish
Wilson County		Spanish
Winkler County		Spanish
Yoshum County		Spanish
Zapata County		Spanish
Zavala County		Spanish
Virginia (none)		



State or Political Subdivision	Title II <sup>1/</sup>	Title III <sup>2/</sup>
Washington		
Adams County		Spanish
Columbia County		Spanish
Ferry County		American Indian
Grant County		Spanish
Okanogan County		American Indian
Yakima County		Spanish
Wyoming		
Carbon County		Spanish
Fremont County		American Indian
Laramie County		Spanish
Sweetwater County		Spanish

<sup>1/</sup> Jurisdictions in which more than 5 percent of the citizen population are members of a language minority and which had less than 50 percent voter participation in 1972. The Attorney General has not yet made a determination concerning a "test or device".

<sup>2/</sup> Jurisdictions in which more than 5 percent of the citizen population are members of a language minority and the illiteracy rate is greater than the national rate.

